

# **BID PROPOSAL AND CONTRACT**

## **Coliseum Drive-North Coliseum Crossing Traffic Signal**

**UPC: 86501**

**VDOT Project No: U000-114-178**

**Federal Project No.: HSIP-5A03(159), HSIP-5A03(578)**

**City Project No.: 08-030**

**FHWA 534 Data 4J021**

**HAMPTON ROADS DISTRICT  
CITY OF HAMPTON, VIRGINIA**



**April 2, 2013**

Coliseum Drive-North Coliseum Crossing Traffic Signal  
 VDOT Project No.: U000-114-178  
 UPC: 86501; FEDERAL PROJECT: HSIP-5A03(159), HSIP-5A03(578)

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Coliseum Drive-North Coliseum Crossing Traffic Signal  
VDOT Project No.: U000-114-178  
UPC: 86501; FEDERAL PROJECT: HSIP-5A03(159), HSIP-5A03(578)

The following list of Plan Sheets, all dated December 2012, form a part of the contract documents for this project:

SHEET INDEX

<u>SHEET NUMBER</u>	<u>DESCRIPTION</u>
G1	TITLE SHEET
G2	INDEX OF SHEETS & LOCATION MAP
G3	GENERAL NOTES
T1	TRAFFIC SIGNAL PLAN
T2	TRAFFIC SIGNAL DETAILS
T3	PLAN DETAILS

## I. NOTICE OF ADVERTISEMENT

PROJECT: ITB No. 13-68/A Install New Traffic Signal at Coliseum Drive & North Coliseum Crossing  
VDOT Project No: U000-114-178 UPC (86501)  
Federal Project No.: HSIP-5A03(159), HSIP-5A03(578)  
LOCATION: City of Hampton, Virginia  
DATE: April 2, 2013

The City of Hampton, Virginia will receive sealed Bids for the above titled project at the Procurement Office, located at 1 Franklin Street, Suite 345, Hampton, VA 23669-3570 until **2:00 p.m. local time on Thursday, May 2, 2013** at which time the Bids will be publicly opened and read aloud. Any Bids received after the specified time and date will not be considered.

The project was developed under UPC 86501, VDOT Project Number U000-114-178, Federal Project Number: HSIP-5A03(159), HSIP-5A03(578).

The Work under this Project consists of furnishing and installing a new, fully operational traffic signal at the intersection of Coliseum Drive and North Coliseum Crossing.

Bid Documents may be examined at the Procurement Office, City of Hampton, located at 1 Franklin Street, Hampton, VA 23669-3570 between the hours of 9:00 a.m. and 4:00 p.m.

All documents regarding this solicitation are available on the Procurement Office website: <http://www.hampton.gov/bids-contracts/>. Hard copies of the Bid Documents may be purchased from the Procurement Office for a non-refundable fee of \$50.00 per set. Requests for Bid Documents to be mailed to the Bidder shall be made in writing and accompanied by a non-refundable check in the amount of \$50.00 per set or an on call pick-up authorization and account number for a parcel delivery service. Checks shall be made payable to the City of Hampton.

This project shall be constructed in accordance with: the Virginia Department of Transportation *Road and Bridge Specifications*, dated 2007; and the Virginia Department of Transportation *Road and Bridge Standards*, dated 2008; the *Virginia Work Area Protection Manual*, dated May 1, 2011; the 2009 edition of the *MUTCD*; and Supplemental Specifications, Special Provisions and Special Provision Copied Notes in this contract.

Bid Security in the amount of **five percent (5 %)** of the Bid shall be submitted with each Bid.

A MANDATORY PRE-BID CONFERENCE will be held on **Tuesday, April 16, 2013 at 1:00 p.m.** local time at the City of Hampton, Department of Public Works, Engineering Conference Room on the Fourth Floor of the City Municipal Building, 22 Lincoln Street, Hampton, VA 23669.

Contractor registration in accordance with Title 2.2 Chapter 43, Code of Virginia is required.

**The Bidder shall include in its Bid the following notation:**

**"Licensed Virginia Contractor No. \_\_\_\_\_"**

VDOT Prequalified Contractors and/or Subcontractors are required for this project. Prequalification of Contractors and/or Subcontractors shall be in accordance with VDOT Road and Bridge Specifications, Section 102.

Withdrawal of Bids due to error shall be subject to and in accordance with Section 2.2-4330 of the Code of Virginia and the Contract Documents.

The Owner reserves the right to reject any and all Bids and to waive any minor non-substantive errors in the Bid.

The City of Hampton does not discriminate in the solicitation or awarding of contracts on the basis of race, religion, faith-based organizations, color, national origin, age, disability or any other basis prohibited by state or federal law.

By: Octavia Andrew, CPPB, VCO  
Senior Buyer  
City of Hampton  
Procurement Department

## II. BID FORM

Bids to be opened:	2:00 p.m. <b>May 2, 2013</b>
Contract time limit	180 Days
Performance Bond:	100%
Payment Bond:	100%
Bid Security:	5%

To: **City of Hampton, Virginia**  
**1 Franklin Street, Suite 345**  
**Hampton, VA 23669-3570**

### A. BID PROPOSAL

In compliance with the Contract Documents, titled **ITB No. 13-68/A Install New Traffic Signal at Coliseum Drive & North Coliseum Crossing, City Project No.: 08-030, VDOT Project No.: U000-114-178 (UPC 86501), Federal Project: HSIP-5A03(159), HSIP-5A03(578)**, and all Addenda issued to date all of which are part of this Bid, the undersigned hereby proposes to furnish all items including materials, supervision, labor, and equipment in strict accordance with, said Contract Documents, for the total base sum of:

SEE NEXT PAGE



City of Hampton  
 Department of Public Works  
 Traffic Signal Upgrade Coliseum Drive At North North Coliseum Crossing  
 VDOT Project No: U000-114-178 (UPC 86501)  
 Federal Project No.: HSIP-5A03(159), HSIP-5A03(578)  
 Project #08-030

### Contractor Bid Tabulation Sheet

ITEM NO.	DESCRIPTION OF ITEMS	QTY	UNIT	UNIT PRICE	EXTENDED PRICE
1	TRAFFIC CONTROL CABINET	1	EA		
2	TRAFFIC CONTROLLER	1	EA		
3	TRAFFIC SIGNAL HEAD SECTION L.E.D. 12" STD.	33	EA		
4	PEDESTRIAN SIGNAL HEAD SP-9	2	EA		
5	PEDESTRIAN ACTUATION PA-2	2	EA		
6	CONCRETE FOUNDATION, SIGNAL POLE, VDOT STD. PF-1	28	CY		
7	TRAFFIC CONTROL CABINET CONCRETE FOUNDATION VDOT STD. CF-1	1	EA		
8	SIGNAL POLE VDOT STD. MP-1 25' ONE ARM 26'	2	EA		
9	SIGNAL POLE VDOT STD. MP-1 25' ONE ARM 42'	1	EA		
10	SIGNAL POL, VDOT STD. MP-1 25' ONE ARM 48'	1	EA		
11	EMERGENCY PREEMPTION DETECTOR CABLE (EPDC)	897	LF		
12	EMERGENCY PREEMPTION EQUIPMENT (INCLUDES 4 DETECTORS)	1	LS		
13	14/7 CONDUCTOR CABLE	897	LF		
14	14/5 CONDUCTOR CABLE	1,039	LF		
15	14/4 CONDUCTOR CABLE	263	LF		
16	14/2 CONDUCTOR CABLE SHIELDED	253	LF		
17	12/1 CONDUCTOR CABLE	100	LF		
18	12 STRAND FIBER OPTIC CABLE	509	LF		
19	JUNCTION BOX VDOT STD. JB-S2	3	EA		
20	JUNCTION BOX VDOT STD. JB-S3	2	EA		
21	2" PVC CONDUIT	215	LF		
22	4" HDPE CONDUIT	284	LF		
23	TRENCH EXCAVATION, VDOT STD. ECI-1	139	LF		
24	JACK AND BORE CONDUIT INSTALLATION	284	LF		

City of Hampton  
 Department of Public Works  
 Traffic Signal Upgrade Coliseum Drive At North North Coliseum Crossing  
 VDOT Project No: U000-114-178 (UPC 86501)  
 Federal Project No.: HSIP-5A03(159), HSIP-5A03(578)  
 Project #08-030

### Contractor Bid Tabulation Sheet

ITEM NO.	DESCRIPTION OF ITEMS	QTY	UNIT	UNIT PRICE	EXTENDED PRICE
25	FIBER OPTIC SPLICE	26	EA		
26	FIBER OPTIC SPLICE TERMINATION ENCLOSURE	1	EA		
27	LC CONNECTOR (DUPLEX)	3	EA		
28	TEST BORE	4	EA		
29	HANGER ASSEMBLY VDOT STD. SM-3, ONE WAY	7	EA		
30	HANGER ASSEMBLY VDOT STD. SM-3, ONE WAY, CLUSTER	2	EA		
31	HANGER ASSEMBLY VDOT STD. SMB-3, ONE WAY	2	EA		
32	SIGN PANEL	33	SF		
33	MOBILIZATION	1	LS		
34	EROSION AND SEDIMENT CONTROL	1	LS		
35	REROUTE EXISTING FIBER OPTIC CABLE	1	LS		
36	MAINTENANCE OF TRAFFIC	1	LS		
<b>TOTAL BID PRICE</b>					

TOTAL BID PRICE (WRITTEN) \_\_\_\_\_

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents. The prices quoted shall include without exception all materials, supervision, labor, equipment, appliances, clean-up, incidental items, applicable sales, use and other taxes, insurance, building permit or fees, and the Contractor's labor, overhead, profit, mobilization and other mark-ups, and in full accordance with the Contract Documents. Include allowance for waste where appropriate. The unit prices shall be maintained throughout the Contract Time.

## B. ADDENDA

The undersigned acknowledges receipt of the following addenda:

Addendum No. Dated:

Addendum No. Dated:

Addendum No. Dated:

C. It is expressly agreed by us that the City of Hampton, Virginia shall have the right to reject any and all Bids and to waive any minor non-substantive errors in the Bid. Award shall be based on the lowest responsive and responsible Bid for Base Bid.

D. Attached is a bond conforming to the requirements of the current Road and Bridge Specifications, it being understood that such bond is to be forfeited as liquidated damages if, upon acceptance of the terms of this proposal, I/we fail to execute the contract and furnish bond as provided in the current Road and Bridge Specifications.

E. I/we declare that no other person, firm or corporation is interested in this proposal.

F. I/we have carefully examined the plans, job specifications, current Road and Bridge Specifications, and all other documents pertaining thereto and thoroughly understand the contents thereof.

G. I/we meet the prequalification requirements for bidding on this proposal. Prequalification of Contractors and/or Subcontractors is in accordance with VDOT Road and Bridge Specifications, Section 102.

H. I/we understand that the plans and current Road and Bridge Specifications are a part of this proposal; that all of the quantities shown herewith are a part of this proposal; that all the quantities shown herewith are approximate only.

I. I/we have examined the location of the proposed work and source of supply of materials.

J. I/we agree to bind myself/ourselves upon award of the City of Hampton, Virginia under this proposal to a contract with necessary surety bond to start work within 15 days of notification of the contract execution or as excepted by other contract language permitted by project specifications, and to complete all work in accordance with the plans, job specifications and current Road and Bridge Specifications within the time limit set forth in the contract

K. CONTRACTOR'S REGISTRATION

Registered Virginia Contractor Class and No. \_\_\_\_\_

*(NOTE: FAILURE TO INCLUDE CONTRACTOR'S REGISTRATION NUMBER IS GROUNDS FOR  
REJECTION OF THE BID.)*

L. SIGNATURE

Contractor \_\_\_\_\_

Signed \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

NOTE: If Bidder is a corporation, write state of incorporation under signature.

VENDOR#/FIN# \_\_\_\_\_

MAILING ADDRESS AND TELEPHONE NUMBER OF BIDDER:

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IF CORPORATION, PROVIDE NAME AND MAILING ADDRESS AS REQUIRED BELOW:

PRESIDENT

SECRETARY

TREASURER

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IF PARTNERSHIP, PROPRIETORSHIP, LIMITED LIABILITY COMPANY OR OTHER FIRM,  
PROVIDE NAME AND MAILING ADDRESS OF EACH PARTNER, PROPRIETOR, OR MEMBER  
OF FIRM.

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### III. BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_ as Principal, and \_\_\_\_\_ as Surety, are hereby held and firmly bound unto **City of Hampton, Virginia** as OWNER in the penal sum of \_\_\_\_\_ (Five Percent) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

The Condition of the above obligation is such that whereas the Principal has submitted to the OWNER a certain BID, attached hereto and hereby made a part hereof to enter into a Contract in writing, for the project entitled: **ITB No. 13-68/A Install New Traffic Signal at Coliseum Drive & North Coliseum Crossing Traffic Signal, VDOT Project No: U000-114-178; UPC: 86501; FHWA No.: HSIP-5A03(159), HSIP-5A03(578).**

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a Contract in the attachment hereto (properly completed in accordance with said BID) and shall furnish a BOND for faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year set forth above.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety

By: \_\_\_\_\_  
Attorney-in-Fact

IMPORTANT - Surety companies executing BONDS shall appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the Commonwealth of Virginia.

#### **IV. CERTIFICATION REGARDING DEBARMENT**

This is to certify that this person/firm/corporation is not now debarred by the Federal Government or by the Commonwealth of Virginia or by any other state, or by any town, city, or county, from submitting Bids on contracts for construction covered by this solicitation, nor are they an agent of any person or entity that is now so debarred.

---

Name of Official

---

Title

---

Firm or Corporation

---

Date

## V. AGREEMENT

This AGREEMENT, dated this \_\_\_\_ day of \_\_\_\_\_ 2013, by and between City of Hampton hereinafter called the Owner; and \_\_\_\_\_ (a corporation, or an unincorporated organization organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ or, an individual trading under the above name) hereinafter called the Contractor.

WITNESSETH: The Owner and Contractor, for the consideration stated herein, agree as follows:

### A. Scope of Work

The Contractor shall perform all required Work and shall provide and furnish all labor, materials, necessary tools, expendable equipment and utility and transportation service and all else required to complete the construction of the **ITB No. 13-68/A Install New Traffic Signal at Coliseum Drive & North Coliseum Crossing, City Project No.: 08-030, VDOT Project No.: U000-114-178 (UPC 86501), Federal Project: HSIP-5A03(159), HSIP-5A03(578)**, project all in strict accordance with the Contract Documents, the terms of which are incorporated herein by reference.

It is understood and agreed that said labor, materials, tools, equipment and service shall be furnished and said Work performed and completed under the direction and supervision of the Contractor and subject to the approval of the Owner or its authorized representative.

### B. Engineer

The power, duties, and responsibilities conferred hereto to the Engineer shall be construed to be those of the Owner or its authorized representative. Where the terms "Department", "Engineer" and "Contract Engineer" appear in Virginia Department of Transportation Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the Virginia Department of Transportation publication(s) that each references, the authority identified shall be construed to be those of the Owner or its authorized representative.

### C. Guarantee

All materials and equipment, furnished by the Contractor, and all construction involved in this Agreement are hereby guaranteed by the Contractor to be free from defects owing to faulty materials or workmanship for a period of one year after date of Completion of the Work. All Work that proves defective, by reason of faulty material or workmanship within said period of one year, shall be replaced by the Contractor free of cost to the Owner. These guarantees shall not operate as a waiver of any of the Owner's rights and remedies for default under or breach of the Agreement which rights and remedies may be exercised at any time within the period of any applicable statute of limitations.

### D. Contract Price

The Owner shall pay the Contractor as just compensation for the satisfactory performance of the Work, subject to any additions or deductions as provided in the Contract Documents, the unit and/or lump sum price as contained in the Bid Schedule attached hereto.

The Contract Price is \_\_\_\_\_ (\$ ) based upon unit



and/or lump sum prices extended as herein contained.

#### E. Payments

The Owner will pay the Contract Price to the Contractor in the manner and at such times as set forth in Section 109 of the *Virginia Department of Transportation Road and Bridge Specifications*, as referenced in Section I. below and as specifically revised for this Project.

#### F. Time

The undersigned Contractor agrees to complete all Work under this Agreement within **180** Days from the date of the Notice to Proceed. Contract completion shall be as described by Section 108.10 of the *Virginia Department of Transportation Road and Bridge Specifications*, as referenced in Section I. below.

#### G. Applicable Law/Compliance

##### (1) Applicable Law

This Agreement shall be deemed to be a Virginia contract and shall be governed as to all matters of validity, interpretations, obligations, performance, or otherwise, exclusively by the laws of the Commonwealth of Virginia, and all questions arising with respect thereto shall be determined in accordance with such laws. Regardless of where actually delivered and accepted, this Agreement shall be deemed to have been delivered and accepted by the parties in the Commonwealth of Virginia.

##### (2) Compliance with all Laws

Contractor shall comply with all federal, state and local statutes, ordinances, and regulations, now in effect or hereafter adopted, in the performance of Work set forth herein. Contractor represents that it possesses all necessary licenses and permits required to conduct its business and will acquire any additional license and permits necessary for performance of this Agreement prior to the initiation of Work. [If the Contractor is a corporation] Contractor further expressly represents that it is a corporation in good standing in the Commonwealth of Virginia and will remain in good standing throughout the term of the contract. Contractor shall at all times observe all health and safety measures and precautions necessary for the sanitary and safe performance of the contract Work.

##### (3) Venue

Any and all suits for any claims or for any breach or dispute arising out of these Contract Documents shall be maintained in the appropriate court of competent jurisdiction in the City of Hampton, Virginia.

##### (4) Environmental Considerations

Any cost or expense associated with environmentally related violations of the law, the creation or maintenance of a nuisance, or releases of hazardous substance, including but not limited to, the cost of any cleanup activities, removals, remediation, responses, damages, fines, administrative or civil penalties or charges imposed on the Owner, whether because of actions or suits by any governmental or regulatory agency or by any

private party, as a result of the release of any hazardous substances, or any noncompliance with or failure to meet any federal, state or local standards, requirements, laws, statutes, regulations or the law of nuisance by the Contractor (or its agents, officers, employees, subcontractors, consultants, subconsultants, or any other persons, corporations, or legal entities employed, utilized, or retained by the Contractor) in the performance of this Agreement or related activities, shall be paid by the Contractor.

(5) Non-Discrimination/Drug-Free Workplace Provisions

a. Employment discrimination by Contractor shall be prohibited. Contractor agrees to comply with Special Provision SF010CF-0309; “FHWA 1273, MEMORANDUM AND CFR CHANGE” dated January 19, 2009 included in the Contract Documents. Furthermore, during the performance of this Agreement, Contractor agrees as follows:

i. Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification/consideration reasonably necessary to the normal operation of Contractor.

Contractor will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act, and the Code of Virginia § 2.2-4311.

If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the Agreement on the basis of the recipient’s religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body.

Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

ii. Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that Contractor is an equal opportunity employer.

iii. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulations shall be deemed sufficient for the purpose of meeting the requirements of this section.

iv. Contractor will include the provisions of the foregoing subsections (i)

and (ii), and (iii) in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor

b. During the performance of this Agreement, Contractor agrees as follows:

i. Contractor will provide a drug-free workplace for Contractor's employees.

ii. Contractor will post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition.

iii. Contractor will state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor maintains a drug-free workplace.

iv. Contractor will include the provisions of the foregoing subsections (i), (ii) and (iii) in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

v. For the purposes of this section, "Drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession, or use of any controlled substance or marijuana during the performance of the contract."

#### H. Liquidated Damages

The damage and loss to the Owner resulting from failure of the Contractor to complete the Work within the time specified in this Agreement, plus any extension of time granted, shall be as stipulated in Section 108.06 of the *Virginia Department of Transportation Road and Bridge Specifications*.

#### I. Hierarchy of Regulations

The Contractor shall comply with all federal, state and local statutes, ordinances, and regulations ("provisions") now in effect or hereafter adopted, in the performance of the scope of work set forth herein. To the extent that any controlling federal provisions conflict with those of the Commonwealth of Virginia (State) or the locality, the federal provisions will control. To the extent the State or City provisions are more restrictive and/or conservative while remaining consistent with federal provisions, the State and City provisions will control respectively.

#### J. Binding

This Agreement shall be binding upon all parties hereto and their respective heirs, executors,



# PRE-BID QUESTION FORM

**I.T.B. NO. 13-68/A**

**DATE:** \_\_\_\_\_

NAME: \_\_\_\_\_

**COMPANY:** \_\_\_\_\_

**SPECIFICATION SECTION \_\_\_\_\_ PARAGRAPH \_\_\_\_\_**

A separate form must be used for each question.

Submit all Pre-Bid Question Forms to:

City of Hampton Procurement Office, Fax number (757) 727-2207, or via email to: [oandrew@hampton.gov](mailto:oandrew@hampton.gov)

All questions are due in the Procurement Office no later than **Friday, April 19, 2013. NO EXCEPTIONS**

[illegible]

## **SUPPLEMENTAL CITY PROVISIONS**

### **Insurance Coverage and Limits Required**

Submit proof of insurance in accordance with requirements as outlined in sections 103.06(d)(f) of the Virginia Department of Transportation Road and Bridge Specifications.

Worker's Compensation must fully comply with all statutory requirements of the Commonwealth of Virginia (Including coverage under United States Longshoremen's and Harbor Workers Act, where applicable, to include Employer's Liability).

Contractor shall submit:

- Proof of Insurance on the form of a certificate prior to the commencement of work.
- Description section to include solicitation number with simple statement of services/work.
- A stipulation that insurance cannot be canceled without 30 days notice except for non-payment where ten (10) days notice of expiration applies.

The Certificate must name the City of Hampton as an additional insured. The endorsement policy would be that which is attached to the Contractor's liability policy that acknowledges the City as an also insured on all policies the City requires to be endorsed. This shall be either a direct endorsement that actually names the City or a blanket endorsement that contract states that the City will be named as an also insured on the insurance policy.

The Contractor shall secure and maintain such insurance policies as will protect himself, his subcontractors, and unless otherwise specified, the City of Hampton, from claims for bodily injuries, death or property damage which may arise from operation under this Agreement, whether such operations be by himself or by any subcontractor or anyone employed by them directly or indirectly.

The establishment of minimum limits of insurance by the City does not reduce or limit the liability or responsibilities of the Contractor.

Should any of the above described policies be cancelled before the expiration date thereof, notice shall be delivered in accordance with the policy provisions. The City further requires thirty (30) days notice of cancellation must be noted in the policy or in additional insured and alternate employer endorsements. Failure to obtain such notice provisions will void any awards or contracts to the Contractor.

Order No.:

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**CONTRACT PERFORMANCE BOND**

Know all men by these presents. That we \_\_\_\_\_

Hereinafter called the ("principal") and \_\_\_\_\_

\_\_\_\_\_ (hereinafter called the "Surety"), are held and firmly  
bound unto the Commonwealth of Virginia (hereinafter called the "Owner"), in full and just sum of \_\_\_\_\_

Dollars ( \$ \_\_\_\_\_ ) lawful money of the United States of America to be paid to said

"Owner." Its successors, and assigns, to which payment well and truly to be made we bind ourselves, executors, administrators, successors, and assigns jointly and severally and firmly by these presents:

Whereas, The above bounden: "Principal" has entered into a contract with the said "Owner" by and through the Commonwealth Transportation Commissioner of the Department of Transportation, said contract being attached hereto, for constructing or otherwise improving

Project: \_\_\_\_\_

Located \_\_\_\_\_

Contract ID Number: \_\_\_\_\_

upon certain terms and conditions in said contract more particularly mentioned: and

Whereas. It was one of the conditions of the award of the "Owner" pursuant to which said contract was entered into, that these presents shall be executed:

Now: Therefore. The conditions of this obligation is such that if the above burden "Principal" shall in all respects comply with the terms and conditions of said contract and his obligations thereunder, including the "Specifications", with amendments thereto, "Special Provisions," "Proposal," and plans therein referred to and made a part thereof, and such alterations as may be made in said plans and specifications as therein provided for, and shall indemnify and save harmless the said "Owner" against or from all cost, expenses, damages, injury or as loss to which the said "Owner" may be subjected by reason of any wrongdoing, misconduct, want of care or skill, negligence or default, including patent infringements, delay or failure to comply with contract provisions, on the part of said "Principal," his agents or employees, in the execution or performance of said contract, including errors in the plans furnished by the "Principal," and shall pay all just claims for damages and injury to property then this obligation to be void; otherwise, to be and remain in full force and virtue in law.

Witness, The signature of the "Principal" and the signature of the "Surety" by its Attorney-in-fact and its corporate seal duly attached by their Attorney-in-fact,

hereunto affixed this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_

\_\_\_\_\_  
(Principal)

\_\_\_\_\_  
(Surety Company)

By  
:

By:

\_\_\_\_\_  
(Officer, Partner or Owner) (SEAL)

\_\_\_\_\_  
Attorney-in-fact (SEAL)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

(Continued)

ORDER NO.:

## CONTRACT PAYMENT BOND

Know all men by these presents. That we \_\_\_\_\_

Hereinafter called the "Principal" and \_\_\_\_\_

(hereinafter called the "Surety"), are held and firmly bound unto the Commonwealth of Virginia (hereinafter called the "Owner"), in full and the just sum of \_\_\_\_\_

Dollars ( \$ \_\_\_\_\_ ) lawful money of the United States of America to be paid to said

"Owner." Its successors, and assigns, to which payment well and truly to be made we bind ourselves, executors, administrators, successors, and assigns jointly and severally and firmly by these presents:

Whereas, The above bounden "Principal" has entered into a contract with the said "Owner" by and through the Commonwealth Transportation Commissioner of the Department of Transportation, said contract being attached hereto, for constructing or otherwise improving

Project: \_\_\_\_\_

Located: \_\_\_\_\_

upon certain terms and conditions in said contract more particularly mentioned: and

Whereas, It was one of the conditions of the award of the "Owner" pursuant to which said contract was entered into, that these presents shall be executed:

Now: Therefore. The conditions of this obligation is such that if the above burden "Principal" shall promptly pay all just claims for labor and material (including public utility services and reasonable rental of equipment when such equipment is actually used at the site) performed for or supplied to said "Principal" or any subcontractor in the prosecution of the work contracted for then this obligation is to be void; otherwise; to be and remain in full force and virtue in law.

Witness, the signature of the "Principal" and the signature of the "Surety" by its Attorney-in-fact and its corporate seal duly attached by their Attorney-in-fact,

hereunto affixed this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_

\_\_\_\_\_  
(Principal)

\_\_\_\_\_  
(Surety Company)

By: \_\_\_\_\_  
(Officer, Partner or Owner) (SEAL)

By: \_\_\_\_\_  
Attorney-in-fact (SEAL)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)



**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
PROPOSAL GUARANTY**

KNOW ALL MEN BY THESE PRESENTS, THAT WE \_\_\_\_\_ As principal, and \_\_\_\_\_ Surety, are held and firmly bound unto the Commonwealth of Virginia as obligee, in the amount of FIVE PERCENT OF THE DOLLAR VALUE OF THE BID, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents.

SIGNED, sealed and dated this \_\_\_\_\_ Day of \_\_\_\_\_, 20 \_\_\_\_\_

WHEREAS, the above said principal is herewith submitting its proposal for:

PROJECT NUMBER:

NOW, THEREFORE, the condition of the above obligee is such, that if the aforesaid principal shall be awarded the contract upon said proposal and shall within the time specified in the Specifications after the notice of such award enter into a contract and give bond for the faithful performance of the contract, then this obligation shall be null and void; otherwise to remain in full force and effect and the principal and surety will pay unto the obligee the difference in money between the amount of the bid of the said principal and the amount for which the obligee may legally contract with another party to perform the said work if the latter amount be in excess of the former; but in no event shall the liability exceed the penal sum hereof.

_____ (Principal*)	_____ (Surety Company)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Attorney-in-Fact**) (Seal)
_____ (Principal*)	_____ (Address)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Surety Company)
_____ (Principal*)	_____ (Attorney-in-Fact**) (Seal)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Address)

\*Note: If the principal is a *joint venture*, each party thereof must be named and execution made by same hereon. If there is more than one surety to the bid bond, each surety must be named and execution shall be made by same hereon.

**Electronic Bid Only:** In lieu of completing the above section of the Contract Performance Bond, the Principal shall file an Electronic Bid Bond when bidding electronically. By signing below the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the Commonwealth of Virginia under the same conditions of the bid bond as shown above.

_____ Electronic Bid Bond ID#	_____ Company/Bidder Name	_____ Signature and Title
----------------------------------	------------------------------	------------------------------

\*\*Attach copy of Power of Attorney

## VIRGINIA DEPARTMENT OF TRANSPORTATION

**STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL PERMIT FOR THE  
DISCHARGE OF STORMWATER FROM CONSTRUCTION ACTIVITIES CONTRACTOR AND  
SUBCONTRACTOR CERTIFICATION STATEMENT**

Order No.: \_\_\_\_\_ Project Number: \_\_\_\_\_

Route: \_\_\_\_\_ Contract ID. #: \_\_\_\_\_

I certify under penalty of law that I understand the terms and conditions of the project contract, plans, permits, specifications and standards related to the erosion and sediment control, stormwater management and stormwater pollution prevention plan requirements for the affected activities associated with this project, the Virginia Stormwater Management Program (VSMP), and the General Permit for the Discharge of Stormwater from Construction Activities, if applicable to this project, issued by the Virginia Department of Conservation and Recreation. The VSMP Permit authorizes the storm water discharges associated with the construction activities from the project site identified and described in the bid documents and subsequent contract including any off-site support activities required for the complete fulfillment of the work therein.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Contracting Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Address/Description of Site: \_\_\_\_\_  
(Include off-site areas) \_\_\_\_\_

Certified on this date: \_\_\_\_\_

(Note: This form must be returned with performance and payment bonds)

FHWA NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

The bidder certifies this form accurately represents its solicitation and utilization or non-utilization, as indicated, of the firms listed below for performance of work on this contract. The bidder also certifies he/she has had direct contact with the named firms regarding participation on this project.

TITLE

## SUBCONTRACTOR/SUPPLIER SOLICITATION AND UTILIZATION (ALL)

[illegible]

BIDDER MUST SIGN EACH ADDITIONAL SHEET TO CERTIFY ITS CONTENT AND COMPLETION OF FORM.

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**DBE GOOD FAITH EFFORTS DOCUMENTATION**

**--DO NOT DETACH--**

**THIS INFORMATION MUST BE SUBMITTED  
WITH YOUR BID PROPOSAL IF YOUR BID DOES  
NOT MEET **THE PROJECT DBE REQUIREMENTS**,  
OR  
WHEN REQUESTED BY VDOT**

CONTRACT I.D. NUMBER\_\_\_\_\_

PROJECT NUMBER\_\_\_\_\_

FHWA NUMBER\_\_\_\_\_

DISTRICT\_\_\_\_\_

DATE BID SUBMITTED\_\_\_\_\_

BIDDER'S NAME\_\_\_\_\_

SIGNATURE\_\_\_\_\_

TITLE\_\_\_\_\_

VENDOR NUMBER\_\_\_\_\_

DBE GOAL FROM BID PROPOSAL\_\_\_\_\_

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**DBE GOOD FAITH EFFORTS DOCUMENTATION**

CONTRACT I.D. NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER \_\_\_\_\_ SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

**NAMES OF CERTIFIED DBEs AND THE DATES ON WHICH THEY WERE SOLICITED TO BID ON THIS PROJECT**

**INCLUDE THE ITEMS OF WORK OFFERED AND THE DATES AND METHODS USED FOR FOLLOWING UP INITIAL SOLICITATIONS TO DETERMINE WHETHER OR NOT DBEs WERE INTERESTED.**

NAMES AND VENDOR NUMBERS OF DBEs SOLICITED	DATE OF INITIAL SOLICITATION	ITEM(S) OF WORK	FOLLOW-UP METHODS AND DATES

**NOTE:** ATTACH ADDITIONAL PAGES IF NECESSARY

ATTACH COPIES OF SOLICITATIONS, TELEPHONE RECORDS, FAX CONFIRMATIONS, ELECTRONIC INFORMATION, ETC.

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER \_\_\_\_\_ SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

TELEPHONE LOG

DBE(s) CALLED	TELEPHONE NUMBER	DATE CALLED	TIME CALLED	CONTACT PERSON OR VOICE MAIL STATUS

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**DBE GOOD FAITH EFFORTS DOCUMENTATION**

CONTRACT I.D. NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER \_\_\_\_\_ SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

**ITEM(S) OF WORK THAT THE BIDDER MADE AVAILABLE TO DBE FIRMS**

IDENTIFY THOSE ITEM(S) OF WORK THAT THE BIDDER MADE AVAILABLE TO DBE FIRMS OR THOSE ITEM(S) THE BIDDER IDENTIFIED AND DETERMINED TO SUBDIVIDE INTO ECONOMICALLY FEASIBLE UNITS TO FACILITATE DBE PARTICIPATION. FOR EACH ITEM LISTED, SHOW THE DOLLAR VALUE AND PERCENTAGE OF THE TOTAL CONTRACT AMOUNT. IT IS THE BIDDER'S RESPONSIBILITY TO DEMONSTRATE THAT SUFFICIENT WORK TO MEET THE GOAL WAS MADE AVAILABLE TO DBE FIRMS.

ITEM(S) OF WORK MADE AVAILABLE	BIDDER NORMALLY PERFORMS ITEM(S) (Y/N)	ITEM(S) BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT IN DOLLARS	PERCENTAGE OF CONTRACT

**NOTE:** INFORMATION REQUIRED FOR THIS SECTION CONTINUED ON SHEET 5  
ATTACH ADDITIONAL PAGES IF NECESSARY

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**DBE GOOD FAITH EFFORTS DOCUMENTATION**

CONTRACT I.D. NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER \_\_\_\_\_ SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

**ADDITIONAL INFORMATION REGARDING ITEM(S) OF WORK THAT THE  
BIDDER MADE AVAILABLE TO DBE FIRMS** (Continued From Sheet 4)

ITEM(S) OF WORK MADE AVAILABLE, NAMES OF SELECTED FIRMS AND DBE STATUS, DBEs THAT PROVIDED QUOTES, PRICE QUOTE FOR EACH FIRM, AND THE PRICE DIFFERENCE FOR EACH DBE IF THE SELECTED FIRM IS NOT A DBE.

ITEM(S) OF WORK MADE AVAILABLE(CONT.)	NAME OF SELECTED FIRM AND VENDOR NUMBER	DBE OR NON-DBE	NAME OF REJECTED FIRM(S)	QUOTE IN DOLLARS	PRICE DIFFERENCE IN DOLLARS

**NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.**

IF THE FIRM SELECTED FOR THE ITEM IS NOT A DBE, PROVIDE THE REASON(S) FOR THE SELECTION ON A SEPARATE PAGE AND ATTACH.

PROVIDE NAMES, ADDRESSES, AND TELEPHONE NUMBERS FOR THE FIRMS LISTED ABOVE.



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**DBE GOOD FAITH EFFORTS DOCUMENTATION**

CONTRACT I.D. NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER \_\_\_\_\_ SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

**ADVERTISEMENTS OR PROOFS OF PUBLICATION.**

NAMES AND DATES OF EACH PUBLICATION IN WHICH A REQUEST FOR DBE PARTICIPATION FOR THE PROJECT WAS PLACED BY THE BIDDER. ATTACH COPIES OF PUBLISHED ADVERTISEMENTS OR PROOFS OF PUBLICATION.

PUBLICATIONS	DATES OF ADVERTISEMENT

**NOTE:** ATTACH ADDITIONAL PAGES IF NECESSARY

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**DBE GOOD FAITH EFFORTS DOCUMENTATION**

CONTRACT I.D. NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

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THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER \_\_\_\_\_ SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

**NAMES OF AGENCIES CONTACTED TO PROVIDE ASSISTANCE**

NAMES OF AGENCIES (SEE SPECIAL PROVISION FOR 107.15) AND THE DATES THESE AGENCIES WERE CONTACTED TO PROVIDE ASSISTANCE IN CONTACTING, RECRUITING, AND USING DBE FIRMS. IF THE AGENCIES WERE CONTACTED IN WRITING, ATTACH COPIES OF SUPPORTING DOCUMENTS.

NAME OF AGENCY	METHOD AND DATE OF CONTACT	RESULTS

**NOTE:** ATTACH ADDITIONAL PAGES IF NECESSARY.

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**DBE GOOD FAITH EFFORTS DOCUMENTATION**

CONTRACT I.D. NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER \_\_\_\_\_ SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

**TECHNICAL ASSISTANCE AND INFORMATION PROVIDED TO DBEs**

EFFORTS MADE TO PROVIDE INTERESTED DBEs WITH ADEQUATE INFORMATION ABOUT THE PLANS, SPECIFICATIONS, AND REQUIREMENTS OF THE BID DOCUMENTS TO ASSIST THE DBEs IN RESPONDING TO A SOLICITATION.

IDENTIFY THE DBEs ASSISTED, THE INFORMATION PROVIDED, AND THE DATE OF CONTACT. ATTACH COPIES OF SUPPORTING DOCUMENTS.

DBEs ASSISTED	INFORMATION PROVIDED	DATE OF CONTACT

**NOTE:** ATTACH ADDITIONAL PAGES IF NECESSARY.

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**DBE GOOD FAITH EFFORTS DOCUMENTATION**

CONTRACT I.D. NO. \_\_\_\_\_ DATE SUBMITTED \_\_\_\_\_

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER \_\_\_\_\_ SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

**EFFORTS MADE TO ASSIST DBEs OBTAIN BONDING, LINES OF CREDIT, INSURANCE, ETC.**

EFFORTS MADE TO PROVIDE INTERESTED DBEs IN OBTAINING BONDING, LINES OF CREDIT, INSURANCE, NECESSARY EQUIPMENT, SUPPLIES, MATERIALS, OR RELATED ASSISTANCE OR SERVICES, EXCLUDING SUPPLIES AND EQUIPMENT THE SUBCONTRACTOR PURCHASES OR LEASES FROM THE PRIME CONTRACTOR OR ITS AFFILIATES.

IDENTIFY THE DBEs ASSISTED, THE ASSISTANCE OFFERED, AND THE DATES OF SERVICES OFFERED AND PROVIDED. ATTACH COPIES OF SUPPORTING DOCUMENTS.

DBEs ASSISTED	ASSISTANCE OFFERED	DATES SERVICES OFFERED AND/OR PROVIDED

**NOTE:** ATTACH ADDITIONAL PAGES IF NECESSARY.

**NOTE: ATTACH ADDITIONAL PAGES, IF NECESSARY**

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION**

PROJECT:

FHWA:

This form must be completed, signed and returned with bid; and failure to do so may result in the rejection of your bid. **THE CONTRACTOR SHALL AFFIRM THE FOLLOWING STATEMENT EITHER BY SIGNING THE AFFIDAVIT AND HAVING IT NOTARIZED OR BY SIGNING THE UNSWORN DECLARATION UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES.** A SEPARATE FORM MUST BE SUBMITTED BY EACH PRINCIPAL OF A JOINT VENTURE BID.

**STATEMENT.** In preparation and submission of this bid, I, the firm, corporation or officers, agents or employees thereof did not, either directly or indirectly, enter into any combination or arrangement with any persons, firm or corporation or enter into any agreement, participate in any collusion, or otherwise take any action in the restraint of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section 1) or Article 1.1 or Chapter 12 of Title 18.2 (Virginia Governmental Frauds Act), Sections 59.1-9.1 through 59.1-9.17 or Sections 59.1-68.6 through 59.1-68.8 of the Code of Virginia.

**AFFIDAVIT**

The undersigned is duly authorized by the bidder to make the foregoing statement to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at \_\_\_\_\_, this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_  
County (City), STATE

\_\_\_\_\_  
(Name of Firm) By: \_\_\_\_\_ Title (print)  
(Signature)

STATE of \_\_\_\_\_ COUNTY (CITY) of \_\_\_\_\_

To-wit:

I \_\_\_\_\_, a Notary Public in and for the State and  
County(City) aforesaid, hereby certify that this day \_\_\_\_\_

personally appeared before me and made oath that he is duly authorized to make the above statements and that such statements are true and correct.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_

My Commission expires \_\_\_\_\_

Notary Public

**OR  
UNSWORN DECLARATION**

The undersigned is duly authorized by the bidder to make the foregoing statement to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at \_\_\_\_\_, this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_  
County (City), STATE

\_\_\_\_\_  
(Name of Firm) By: \_\_\_\_\_ Title (print)  
(Signature)

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
AFFIDAVIT**

PROJECT:

FHWA:

This form must be completed, signed, notarized and returned with bid; and failure to do so, may result in the rejection of your bid. A separate form must be submitted by each principal of a joint venture bid.

1. I, the firm, corporation or officers, agents or employees thereof have neither directly nor indirectly entered into any combination or arrangement with any person, firm or corporation or entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract, the effect of which is to prevent competition or increase the cost of construction or maintenance of roads or bridges.

During the preceding twelve months, I (we) have been a member of the following Highway Contractor's Associations, as defined in Section 33.1-336 of the Code of Virginia (1970). (If none, so state).

NAME	Location of Principal Office
_____	_____
_____	_____
_____	_____

2. I (we) have \_\_\_\_\_, have not \_\_\_\_\_, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that I/We have \_\_\_\_\_, have not \_\_\_\_\_, filed with the joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

**Note:** The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor [41 CFR 60-1.7(b)(1)], and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contract or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contract and subcontract unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

(Continued)

**ORDER NO.:**  
**CONTRACT ID. NO.:**

Form C-105  
page 2

3. The bidder certifies to the best of its knowledge and belief, that it and its principals:
- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offence in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated above; and
  - (d) Where the bidders is unable to certify to any of the statements in this certification, the bidder shall show an explanation below.

Explanations will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any explanation noted, indicate below to whom it applies, initiating agency, and dates of action. Providing false information may result in federal criminal prosecution or administration sanctions. The bidder shall provide immediate written notice to the Department if at any time the bidder learns that its certification was erroneous when submitted or has become erroneous by reason of change circumstances.

The undersigned is duly authorized by the bidder to make the foregoing statements to be filed with bids submitted on behalf of the bidder for contracts to be let by the Commonwealth Transportation Board.

Signed at \_\_\_\_\_, this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_  
County (City), STATE

By: \_\_\_\_\_  
(Name of Firm) (Signature) Title (print)

STATE of \_\_\_\_\_ COUNTY (CITY) of \_\_\_\_\_

To-wit:

I \_\_\_\_\_, a Notary Public in and for the State and  
County(City) aforesaid, hereby certify that this day \_\_\_\_\_

personally appeared before me and made oath that he is duly authorized to make the above statements and that such statements are true and correct.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_

My Commission expires \_\_\_\_\_

Notary Public



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
**MINIMUM DBE REQUIREMENTS**

PROJECT NO. \_\_\_\_\_

FHWA NO. \_\_\_\_\_

**\*\*\* INSTRUCTIONS \*\*\***

THIS FORM CAN BE USED BY THE CONTRACTOR TO SUBMIT THE NAMES OF DBE FIRMS TO BE UTILIZED ON THE PROJECT. THE CONTRACTOR SHALL INDICATE THE DESCRIPTION OF THE CATEGORY (S, M, SP or H) AND THE TYPE OF WORK THAT EACH DBE WILL PERFORM AND THE ALLOWABLE CREDIT PER ITEM(S). ADDITIONAL SHEETS TO SHOW THE ALLOWABLE CREDIT PER ITEM MAY BE ATTACHED IF NECESSARY. **PLEASE NOTE:** THE AMOUNT OF ALLOWABLE CREDIT FOR A DBE SUPPLIER IS 60% OF THE TOTAL COST OF THE MATERIALS OR SUPPLIES OBTAINED AND 100% FOR A DBE MANUFACTURER OF THE MATERIALS AND SUPPLIES OBTAINED. A CONTRACTOR MAY COUNT 100% OF THE FEES PAID TO A DBE HAULER FOR THE DELIVERY OF MATERIALS AND SUPPLIES TO THE PROJECT SITE, BUT NOT FOR THE COST OF THE MATERIALS AND SUPPLIES THEMSELVES.

DBE REQUIREMENT \_\_\_\_\_ %

PERCENT ATTAINED BY BIDDER \_\_\_\_\_ %

NAMES(S) AND CERTIFICATION NO. OF DBE(S) TO BE USED	USED AS	TYPE OF WORK AND ITEM NO(S)	\$ AMOUNT OF ALLOWABLE CREDIT PER ITEM
	SUBCONTR. (S) MFG. (M) SUPPLIER (SP) HAULER (H)		
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
<b>TOTAL</b>			<b>\$</b> _____

TOTAL CONTRACT VALUE \$ \_\_\_\_\_ x REQUIRED DBE \_\_\_\_\_ % = \$ \_\_\_\_\_

I/WE CERTIFY THAT THE PROPOSED DBE(S) SUBMITTED WILL BE USED ON THIS CONTRACT AS STATED HEREON AND ASSURE THAT DURING THE LIFE OF THE CONTRACT. I/WE WILL MEET OR EXCEED THE PARTICIPATION ESTABLISHED HEREON BY THE DEPARTMENT.

_____	BY	_____
BIDDER		SIGNATURE
_____	BY	_____
TITLE		DATE

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION  
CERTIFICATION OF BINDING AGREEMENT  
WITH  
DISADVANTAGED BUSINESS ENTERPRISE FIRMS**

Project No.:

Federal Project No.:

This form is to be submitted in accordance with the Department's Special Provision for Section 107.15.

It is hereby certified by the below signed Contractors that there exists a written quote, acceptable to the parties involved preliminary to a binding subcontract agreement stating the details concerning the work to be performed and the price which will be paid for the aforementioned work. This document is not intended to, nor should it be construed to, contain the entire text of the agreement between the contracting parties. This document does not take the place of, nor may it be substituted for, an official subcontracting agreement in those situations that may require such an agreement. A copy of the fully executed *subcontract agreement* shall be submitted to the Engineer within fourteen (14) business days after contract execution.

It is further certified that the aforementioned mutually acceptable quote and fully executed subcontract agreement represent the entire agreement between the parties involved and that no conversations, verbal agreements, or other forms of non-written representations shall serve to add to, delete, or modify the terms as stated.

The prime Contractor further represents that the aforementioned mutually acceptable quote and fully executed subcontract agreement shall remain on file for a period of not less than one year following completion of the prime's contract with the Department or for such longer period as provisions of governing Federal or State law or regulations may require. For purposes of this form, the term Prime Contractor shall refer to any Contractor utilizing a DBE subcontractor, regardless of tier, in which they are claiming DBE credit toward the contract goal.

Contractors further jointly and severally represent that said binding agreement is for the performance of a "commercially useful function" as that term is employed in 49 C.F.R. Part 26.55 (c), (d).

**TO BE SIGNED BY THE SUBCONTRACTOR TO THE PRIME CONTRACTOR, AND ANY LOWER TIER  
SUBCONTRACTORS HAVING A CONTRACT WITH THE BELOW NAMED DBE FIRM**

Prime Contractor \_\_\_\_\_

By: \_\_\_\_\_  
Signature Title

Date: \_\_\_\_\_

First Tier  
Subcontractor if  
Applicable

\_\_\_\_\_

By: \_\_\_\_\_  
Signature Title

Date: \_\_\_\_\_

Second Tier  
Subcontractor if  
Applicable

\_\_\_\_\_

By: \_\_\_\_\_  
Signature Title

Date: \_\_\_\_\_

Third Tier  
Subcontractor if  
Applicable

\_\_\_\_\_

By: \_\_\_\_\_  
Signature Title

Date: \_\_\_\_\_

DBE Contractor

\_\_\_\_\_

By: \_\_\_\_\_  
Signature Title

Date: \_\_\_\_\_

## **—DIVISION I – GENERAL PROVISIONS—**

——STANDARD 100 SERIES SPECIAL PROVISION COPIED NOTES (SPCNs)——

(c100ai03-0112) **GENERAL PROJECT REQUIREMENTS, SUPPLEMENTAL SPECIFICATIONS (SSs), SPECIAL PROVISIONS (SPs) AND SPECIAL PROVISION COPIED NOTES (SPCNs)**

This project shall be constructed in accordance with: the plans; the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2007; the *Virginia Department of Transportation Road and Bridge Standards*, dated 2008; the 2011 edition of the *Virginia Work Area Protection Manual*; the 2009 edition of the *MUTCD* and the current *Virginia Supplement to the MUTCD*; and the Supplemental Specifications, Special Provisions and Special Provision Copied Notes in this contract.

Special Provision Copied Notes in this contract are designated with "(SPCN)" after the date.

The information enclosed in parenthesis "()" at the left of each Special Provision Copied Note in this contract is file reference information for Department use only. The information in the upper left corner above the title of each Supplemental Specification and Special Provision in this contract is file reference information for Department use only.

The Department has identified the system of measurement to be used on this particular project as imperial. Any imperial unit of measure in this contract with an accompanying expression in a metric unit shall be referred to hereinafter as a "dual unit" measurement. Such a "dual unit" measurement is typically expressed first in the imperial unit followed immediately to the right by the metric unit in parenthesis "()" or brackets "[]" where parenthesis is used in the sentence to convey other information. Where a "dual unit" of measure appears in this project, only the imperial unit shall apply. The accompanying metric unit shown is not to be considered interchangeable and mathematically convertible to the imperial unit and shall not be used as an alternate or conflicting measurement.

12-1-11 (SPCN)

**VDOT SUPPLEMENTAL SPECIFICATIONS (SSs), SPECIAL PROVISIONS (SPs) AND SPECIAL PROVISION COPIED NOTES (SPCNs)**

Where Virginia Department of Transportation (VDOT) Supplemental Specifications, Special Provisions and Special Provision Copied Notes are used in this contract, the references therein to “the Specifications” shall refer to the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2007 for both imperial and metric unit projects. References to the “Road and Bridge Standard(s)” shall refer to the *Virginia Department of Transportation Road and Bridge Standards*, dated 2008 for both imperial and metric unit projects. References to the “Virginia Work Area Protection Manual” shall refer to the 2011 edition of the *Virginia Work Area Protection Manual* for imperial and metric unit projects. References to the “MUTCD” shall refer to the 2009 edition of the *MUTCD* and the current *Virginia Supplement to the MUTCD* for imperial and metric unit projects.

Where the terms “Department”, “Engineer” and “Contract Engineer” appear in VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publication(s) that each references, the authority identified shall be in accordance with the definitions in Section 101.02 of the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2007. Authority identified otherwise for this particular project will be stated elsewhere in this contract.

VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes used in this contract and the VDOT publication(s) that each reference are intended to be complementary to the each other. In case of a discrepancy, the order of priority stated in Section 105.12 of the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2007 shall apply.

VDOT Special Provision Copied Notes in this contract are designated with “(SPCN)” after the date of each document. VDOT Supplemental Specifications and Special Provision Copied Notes in this contract are designated as such above the title of each document.

The information enclosed in parenthesis “( )” at the left of each VDOT Special Provision Copied Note in this contract is file reference information for VDOT use only. The information in the upper left corner above the title of each VDOT Supplemental Specification and VDOT Special Provision in this contract is file reference information for VDOT use only.

The system of measurement to be used in this project is stated elsewhere in this contract. VDOT Supplemental Specifications, Special Provisions and Special Provision Copied Notes containing imperial units of measure with accompanying expressions in metric units shall be referred to hereinafter as “dual unit measurement” documents. Such a “dual unit measurement” is typically expressed first in the imperial unit followed immediately to the right by the metric unit in parenthesis “( )” or brackets “[ ]” where parenthesis is used in the sentence to convey other information. Where a “dual unit measurement” appears in VDOT documents, the unit that applies shall be in accordance with the system of measurement as stated elsewhere in this contract. The unit shown that is not of the declared unit of measurement is not to be considered interchangeable and mathematically convertible to the declared unit and shall not be used as an alternate or conflicting measurement. Where VDOT Specifications are used for metric unit projects and only imperial units of measurement appear the document, the provision(s) in this contract for imperial unit to metric unit conversion shall apply.

12-1-11 (SPCN)



(c105hf1-0309)

**SECTION 105.06 SUBCONTRACTING** of the Specifications is amended to include the following:

Any distribution of work shall be evidenced by a written binding agreement on file at the project site. Where no field office exists, such agreement shall be readily available upon request to Department inspector(s) assigned to the project.

The provisions contained in Form FHWA-1273 specifically, and other federal provisions included with the prime Contract are generally applicable to all Federal-aid construction projects and must be made a part of, and physically incorporated into all contracts, as well as, appropriate subcontracts for work so as to be binding in those agreements.

12-19-08 (SPCN)

(c105j00-0708)

**SECTION 105.14(a) DETOURS** of the Specifications is replaced by the following:

- (a) **Detours:** Detours may be indicated on the plans or in the special provisions or used with the approval of the Engineer. Detours over existing off-project roadways will be designated and the roadways maintained by the Department except municipalities shall be responsible for roadway maintenance within their own corporate limits. Temporary directional sign panels for off-project detours will be furnished by the Department. Responsibility for installation and maintenance of the temporary directional sign panels shall be in accordance with Section 512.03(a) of the Specifications.

If any project is located wholly or in part within the corporate limits of a municipality and through traffic is to be detoured at the request of the municipality, the municipality will:

1. Provide and maintain the detours within the corporate limits
2. Furnish, install and maintain the temporary directional sign panels

The provision of detours and signing of alternate routes will not relieve the Contractor of the responsibility of ensuring the safety of the public or from complying with any requirements of these specifications affecting the rights of the public, including those concerning lights and barricades. Maintenance of all other detours shall be the responsibility of the Contractor.

Right of way for temporary highways or bridges required by these provisions will be furnished by the Department.

1-14-08 (SPCN)

(c106fp0-0609)

**SECTION 106.03(b) SOURCES FURNISHED BY THE CONTRACTOR** of the Specifications is replaced by the following:

- (b) **Sources Furnished by the Contractor:** The use of material from sources furnished by the Contractor will not be permitted until approved by the Engineer and written authority is issued for the use thereof.

The Contractor shall acquire the necessary rights to take material from these sources and shall pay all costs related thereto, including costs which may result from an increase in length of haul. The Department will review and evaluate the material and reserves the right to reject any material from a previously approved source which fails visual examination or test.

1-14-08 (SPCN)

(c108lg0-0708)

**SECTION 108.06(b) LIQUIDATED DAMAGES** of the Specifications is replaced by the following:

All work for this Contract shall be completed and accepted on or before the time limit established in the Contract. In the event the Contractor fails to complete the work by the time limit, liquidated damages, representing the estimated additional cost of administration, engineering, supervision, inspection and other expenses will be charged against the Contractor in the amount of \$250.00 for each calendar day beyond the time limit, including Sundays and Holidays, in which the Contract remains in an incomplete state.

1-14-08 (SPCN)

**——SELECT USE 100 SERIES SPECIAL PROVISION COPIED NOTES (SPCNs)——**

**CONTINUOUS PROSECUTION OF WORK** - The Contractor may schedule and perform work on this contract any time within the fixed time limit set forth in the contract; however, work on each route/section shall be continuously prosecuted once started until completion of that particular route/section.

6-20-06a (SPCN)

**—FEDERAL DOCUMENTS—**

## PREDETERMINED MINIMUM WAGE RATES

General Decision Number: VA130014 01/04/2013 VA14

Superseded General Decision Number: VA20120014

State: Virginia

Construction Type: Highway

Counties: Gloucester, Hampton\*, James\*, Mathews, Newport  
News\* and York Counties in Virginia.

\* INDEPENDENT CITIES

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building  
structures in rest area projects & railroad construction;  
bascul, suspension & spandrel arch bridges designed for  
commercial navigation, bridges involving marine construction;  
and other major bridges).

Modification Number	Publication Date
0	01/04/2013

\* SUVA2010-004 02/01/2011

Rates	Fringes
-------	---------



CARPENTER (STRUCTURE) .....\$ 17.43

CEMENT MASON/CONCRETE FINISHER...\$ 14.59

ELECTRICIAN.....\$ 29.24

FORM SETTER.....\$ 14.00

IRONWORKER, REINFORCING.....\$ 29.80

IRONWORKER, STRUCTURAL.....\$ 29.80

LABORER

Asphalt Raker.....\$ 14.94

Construction Laborer I

(Skilled Laborer).....\$ 14.32

Construction Worker II

(Laborer).....\$ 10.36

Flagger.....\$ 9.43

Guardrail Erector.....\$ 11.00

Landscape Worker.....\$ 11.08

Pipe Layer.....\$ 12.61

Power Tool Operator.....\$ 11.33

PILDRIVERMAN.....\$ 23.41

POWER EQUIPMENT OPERATOR:

Asphalt Distributor.....\$ 17.75

Asphalt Paver.....	\$ 16.00
Backhoe.....	\$ 16.32
Bulldozer.....	\$ 16.00
Concrete Finish Machine.....	\$ 15.00
Concrete Paving Machine.....	\$ 15.69
Concrete Pump.....	\$ 16.12
Concrete Saw.....	\$ 14.00
Crane, Derrick, Dragline	
(1 cm & under).....	\$ 24.00
Crane, Derrick, Dragline	
(over 1 cm).....	\$ 28.92
Drill Operator.....	\$ 10.00
Excavator (Gradall).....	\$ 17.39
Front End Loader (2 cm &	
under).....	\$ 17.15
Front End Loader (over 2	
cm).....	\$ 16.80
Hydro Seeder.....	\$ 10.00
Mechanic.....	\$ 17.21
Motor Grader (Fine grade)...	\$ 18.00
Motor Grader (Rough grade)...	\$ 19.25
Pavement Marking.....	\$ 11.67
Pavement Planing.....	\$ 22.10
Pile Driver.....	\$ 17.00
Roller (Finish).....	\$ 16.00
Roller (Rough).....	\$ 14.14
Stabilizer.....	\$ 18.75
Tractor Operator (Crawlers)...	\$ 10.00

Trenching Machine.....\$ 14.00

Truck Operator (Utility)....\$ 15.65

TRAFFIC SIGNAL INSTALLER.....\$ 21.64

TRUCK DRIVER

Truck Driver (Multi-Rear  
Axle).....\$ 16.00

Truck Driver (Single Rear  
Axle).....\$ 15.33

Truck Driver (Tandem Rear  
Axle).....\$ 16.00

Truck Driver, Heavy Duty  
(7 cy & under).....\$ 13.54

Truck Driver, Heavy Duty  
(over 7 cy).....\$ 13.28

WELDER.....\$ 14.00

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WELDERS - Receive rate prescribed for craft performing  
operation to which welding is incidental.

=====

Unlisted classifications needed for work not included within  
the scope of the classifications listed may be added after

award only as provided in the labor standards contract clauses  
(29CFR 5.5 (a) (1) (ii)).

-----

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

#### Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective

bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

#### Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

U.S. DEPARTMENT OF LABOR  
OFFICE OF THE SECRETARY  
WASHINGTON  
**DECISION OF THE SECRETARY**

This case is before the Department of Labor pursuant to a request for a wage predetermination as required by law applicable to the work described.

A study has been made of wage conditions in the locality and based on information available to the Department of Labor the wage rates and fringe payments listed are hereby determined by the Secretary of Labor as prevailing for the described classes for labor in accordance with applicable law.

This wage determination decision and any modifications thereof during the period prior to the stated expiration date shall be made a part of every contract for performance of the described work as provided by applicable law and regulations of the Secretary of Labor, and the wage rates and fringe payments contained in this decision, including modifications, shall be the minimums to be paid under any such contract and subcontractors on the work.

The contracting officer shall require that any class of laborers and mechanics which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination, and a report of the action taken shall be sent by the Federal agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the contracting officer shall be referred to the Secretary for determination.

Before using apprentices on the job the contractor shall present to the contracting officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U.S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U.S. Bureau of Apprenticeship and Training.

The contractor shall submit to the contracting officer written evidence of the established apprentice-journeyman ratios and wage in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

Fringe payments include medical and hospital care, compensation for injuries or illness resulting from occupational activity, unemployment benefits, life insurance, disability and sickness insurance, accident insurance (all designated as health and welfare), pensions, vacation and holiday pay, apprenticeship or other similar programs and other bona fide fringe benefits.

By direction of the Secretary of Labor

A handwritten signature in black ink, appearing to read "E. Irving Manger", written in a cursive style.

E. Irving Manger, Associate Administrator  
Division of Wage Determinations  
Wage and Labor Standards Administration

The following Form **FHWA-1273** titled **REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS** shall apply to this contract:

=====

FHWA-1273 – Revised May 1, 2012

### REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- 
- I. General
  - II. Nondiscrimination
  - III. Nonsegregated Facilities
  - IV. Davis-Bacon and Related Act Provisions
  - V. Contract Work Hours and Safety Standards Act Provisions
  - VI. Subletting or Assigning the Contract
  - VII. Safety: Accident Prevention
  - VIII. False Statements Concerning Highway Projects
  - IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
  - X. Compliance with Governmentwide Suspension and Debarment Requirements
  - XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

- A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

#### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.
4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

## II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:



- a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.
  - b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."
2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.
3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
  - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
  - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
  - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.
  - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
  - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify

sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
- b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

- a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.
- b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

- c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
  - d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.
7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:
- a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.
  - b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
  - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.
  - d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.
8. **Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.
9. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.
- a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

- b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

- a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.
- b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

- a. The records kept by the contractor shall document the following:
  - (1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
  - (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
  - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;
- b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

**III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation,

and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

#### **IV. Davis-Bacon and Related Act Provisions**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

##### **1. Minimum wages**

- a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
  - (I) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

- (II) The classification is utilized in the area by the construction industry; and
  - (II) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## **2. Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any

subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

### **3. Payrolls and basic records**

- a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
- b.
  - (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.
  - (2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (I) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
  - (II) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
  - (III) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.
- (4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
- c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### **4. Apprentices and trainees**

##### **a. Apprentices (programs of the USDOL).**

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at



an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at

less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.
- d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

- 5. **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
- 6. **Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
- 7. **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
- 8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
- 9. **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
- 10. **Certification of eligibility.**
  - a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
  - b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
  - c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

## V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.
3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.
4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).
  - a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime

contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
  - (2) the prime contractor remains responsible for the quality of the work of the leased employees;
  - (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
  - (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.
- b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
  3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.
  4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.
  5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety

of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

#### **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

**X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

**1. Instructions for Certification – First Tier Participants:**

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction

with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

- f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

- a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:
  - (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
  - (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery,

falsification or destruction of records, making false statements, or receiving stolen property;

- (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and
- (4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

- b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment,



Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-- Lower Tier Participants:**

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

- 1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
  - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and

the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

- b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

## FHWA MEMORANDUM



U.S. Department of  
Transportation  
**Federal Highway  
Administration**

**MEMORANDUM**

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**Subject: ACTION:** The Discontinuance of the FHWA-45, FHWA-47 & FHWA-810 **Date:** May 22, 2007

**From:** /s/ Original signed by  
Dwight Horne,  
Director Office of Program Administration

**In Reply** HIPA-10  
**Refer to:**

**To:** Directors of Field Services  
Division Administrators  
Federal Lands Administrator

Effective immediately, Divisions and/or our State Transportation Agency (STA) partners will no longer be required to submit data to HIPA-10 that is collected as it relates to:

The FHWA-45, Bid Price Data<sup>1</sup>,

The FHWA-47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds<sup>2</sup>, and

The FHWA-810, Bid Tabulation Data<sup>3</sup>

For several years, STAs have commented that the reports generated from the data collection efforts were of little utility and that there were statistical limitations, statistical significance, and accuracy issues with the data which were felt could result in misleading information. There was also a noted reporting burden on States and contractors. The suggestions have often been to eliminate the reporting requirements all together.

In 2003, the GAO conducted a review of the States' highway construction costs. As part of its review, the GAO reviewed FHWA's cost data collection requirements. In its discussions, the GAO also identified similar issues and concerns with the data series as discussed above. In a December 2003 report GAO made recommendations to FHWA to review the usefulness and accuracy and/or under reporting of the data collected.

As a result, FHWA has determined that it is appropriate to discontinue the reporting requirements for the FHWA 45, 47 and 810 as collection of this data for needed reports such as the "Highway Statistics" publication can be collected through other means. The main reasons for this decision are the strong disinterest in the data collection activities and comments provided to us by our STA partners suggesting that we are not collecting the data extensively enough to be of utility. We will also be going through an abridged regulatory update as appropriate to reflect this action. Please contact Bob Wright, at 202-366-4630, to answer any questions and/or for additional information on this matter.

The FHWA 45, Bid Price Data, was collected on NHS projects over \$500,000. The FHWA 45 served as a means to compute the highway construction bid price index, which is published in the document "Price Trends for Federal-aid Highway Construction. The data was used in our "Highway Statistics" publication and by other outside sources, including its use by congressional committees in their deliberations on pending new highway legislation.

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The FHWA 47, Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds, was collected on all NHS projects over \$1,000,000. The FHWA 47 served as a means to collect data related to the quantities of materials, supplies and labor used for various types of highway construction. The data reported on this form was used primarily to compute usage factors for these various materials, supplies, and labor. These factors were used to determine the economic impacts of cuts or increases in the cost of Federal-aid highway construction.

FHWA 810, Bid Tabulation Data was collected on all NHS projects. The needs for the FHWA 810 have been to compute national summaries on the largest contract awards and contract size statistics. The data was also used to produce state-by-state summaries on contracts awards, number of bids and average number of bids.

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VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE  
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals for female and minority participation, expressed in percentage terms of the Contractor's aggregate work force in each trade on all construction works in the covered area, are as follows:

Females- 6.9%

Minorities - See Attachment "A"

The goals are applicable to all the Contractor's construction work performed in the covered area, whether or not it is Federal or federally assisted. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications, set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established herein. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executives Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 workings days the award of any construction subcontract in excess of \$10,000 at any tier for construction works under this contract. The notification shall list the name, address and telephone number of the subcontractor, employer identification number, estimated dollar amount of the subcontract, estimated starting and completion dates of the subcontract and the geographical area in which the contract is to be performed.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY  
CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)**

1. As, used in this provision:
  - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
  - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941;
  - d. "Minority" includes:
    - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

- (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
  - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
  - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation.
  3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors and Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
  4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the coverer area. Covered construction Contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
  5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
  6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.
  7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
    - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, shall assign two or more women to each construction project. The Contractor shall specifically ensure that all foreman, superintendents and other on-site supervisory personnel are

aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites in such facilities.

- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off the street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union, or if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper or annual report; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents and General Foremen prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including in any news media advertisement that the Contractor is "An Equal Opportunity Employer" for minority and female, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Directs its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of Contractor's workforce.

- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
  - l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for such opportunities through appropriate training or other means.
  - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
  - n. Ensure that all facilities and company activities are nonsegregated, except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
  - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
  - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. Goals for women have been established. However, the Contractor IS required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner, that is even though the Contractor has achieved its goals for women, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or nation origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor



fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director will proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate and make known to the Department a responsible official as the EEO Officer to monitor all employment related activity, to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors will not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

## ATTACHMENT A

<u>Economic Area</u>	<u>Goal (Percent)</u>
Virginia:	
021 Roanoke-Lynchburg, VA	
SMSA Counties:	
4640 Lynchburg, VA .....	19.3
VA Amherst; VA Appomattox; VA Campbell; VA Lynchburg	
6800 Roanoke, VA .....	10.2
VA Botetourt; VA Craig; VA Roanoke; VA Roanoke City; VA Salem	
Non-SMSA Counties .....	12.0
VA Alleghany; VA Augusta; VA Bath; VA Bedford; VA Bland; VA Carroll;	
VA Floyd; VA Franklin; VA Giles; VA Grayson; VA Henry; VA Highland;	
VA Montgomery; VA Nelson; VA Patrick; VA Pittsylvania; VA Pulaski;	
VA Rockbridge; VA Rockingham; VA Wythe; VA Bedford City; VA Buena	
Vista:	
VA Clifton Forge; VA Covington; VA Danville; VA Galax; VA Harrisonburg;	
VA Lexington; VA Martinsville; VA Radford; VA Staunton; VA Waynesboro;	
WV Pendleton.	
022 Richmond, VA	
SMSA Counties:	
6140 Petersburg - Colonial Heights - Hopewell, VA .....	30.6
VA Dinwiddie; VA Prince George; VA Colonial Heights; VA Hopewell;	
VA Petersburg.	
6760 Richmond, VA .....	24.9
VA Charles City; VA Chesterfield; VA Goochland, VA Hanover; VA	
Henrico; VA New Kent; VA Powhatan; VA Richmond.	
Non-SMSA Counties .....	27.9
VA Albemarle; VA Amelia; VA Brunswick; VA Buckingham, VA Caroline;	
VA Charlotte; VA Cumberland; VA Essex; VA Fluvanna; VA Greene; VA	
Greensville; VA Halifax; VA King and Queen; VA King William; VA	
Lancaster; VA Louisa; VA Lunenburg; VA Madison; VA Mecklenburg; VA	
Northumberland; VA Nottoway; VA Orange; VA Prince Edward; VA Richmond	
VA Sussex; VA Charlottesville; VA Emporia; VA South Boston	
023 Norfolk - Virginia Beach - Newport News VA:	
SMSA Counties:	
5680 Newport News- Hampton, VA .....	27.1

VA Gloucester; VA James City; VA York; VA Hampton; VA Newport News; VA Williamsburg.	
5720 Norfolk - Virginia Beach - Portsmouth, VA - NC .....	26.6
NC Currituck; VA Chesapeake; VA Norfolk; VA Portsmouth; VA Suffolk; VA Virginia Beach.	
Non-SMSA Counties .....	29.7
NC Bertie; NC Camden; NC Chowan; NC Gates; NC Hertford; NC Pasquotank; NC Perquimans; VA Isle of Wight; VA Matthews; VA Middlesex; VA Southampton; VA Surry; VA Franklin.	
Washington, DC:	
020 Washington, DC.	
SMSA Counties:	
8840 Washington, DC - MD - VA .....	28.0
DC District of Columbia; MD Charles; MD Montgomery MD Prince Georges; VA Arlington; VA Fairfax; VA Loudoun; VA Prince William VA Alexandria; VA Fairfax City; VA Falls Church.	
Non- SMSA Counties .....	25.2
MD Calvert; MD Frederick; MD St. Marys; MD Washington; VA Clarke; VA Culpeper; VA Fauquier; VA Frederick; VA King George; VA Page; VA Rappahannock; VA Shenandoah; VA Spotsylvania; VA Stafford; VA Warren; VA Westmoreland; VA Fredericksburg; VA Winchester WV Berkeley; WV Grant; WV Hampshire; WV Hardy; WV Jefferson; WV Morgan.	
Tennessee:	
052 Johnson City - Kingsport - Bristol, TN - VA	
SMSA Counties:	
3630 Johnson City - Kingsport -Bristol, TN-VA .....	2.6
TN Carter; TN Hawkins; TN Sullivan; TN Washington; VA Scott: VA Washington; VA Bristol.	
Non-SMSA Counties .....	3.2
TN Greene; TN Johnson; VA Buchanan; VA Dickenson; VA Lee; VA Russell; VA Smyth; VA Tazewell; VA Wise; VA Norton; WV McDowell; WV Mercer.	
Maryland:	
019 Baltimore MD	
Non-SMSA Counties .....	23.6
MD Caroline; MD Dorchester; MD Kent; MD Queen Annes; MD Somerset; MD Talbot; MD Wicomico; MD Worchester; VA Accomack; VA Northampton.	

**——STANDARD 100 SERIES SPs (SPECIAL PROVISIONS)——**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROJECT COMMUNICATION AND DECISION MAKING**

January 3, 2005c  
Reissued July 2008

## **I. DESCRIPTION**

The intent of this provision is to establish procedures, processes and guidelines for making decisions and managing communications regarding work under contract on construction and maintenance projects. The information contained herein is not meant to be all inclusive but to serve as a minimal general framework for promoting efficient and effective communication and decision making at both the project and, if needed, executive administrative level. It is also not meant to override the decision-making processes or timeframes of specific contract requirements.

## **II. DEFINITIONS**

For the purposes of this provision the following terms will apply and be defined as follows:

**Submittals** – Documents required by the contract that the Contractor must submit for the Department's review, acceptance or approval. These may include shop drawings, working drawings, material test reports, material certifications, project progress schedules, and schedule updates. The Contractor shall produce submittals as early as practicable when required by the contract so as not to delay review and determination of action.

**Confirmation of verbal instructions (COVI)** - Contractor requested written confirmation of agreements and instructions developed in negotiations with the Department concerning the Work under contract. Agreements must be able to be quantified using existing contract procedures and will, in the vast majority of cases, not impact contract time and cost. When time and/or cost are impacted, they must be clearly spelled out in the COVI.

**Requests for information (RFI)** – Requests generated by either the Contractor or the Department that the other party supplies information to better understand or clarify a certain aspect of the Work.

**Requests for owner action (ROA)** – Requests when the Contractor asks that the Department take certain action(s) the Contractor feels is required for proper completion of a portion of the Work or project completion.

**Contract change requests (CCR)** - Request where the Contractor asks the Department to make an equitable adjustment to the contract because of excusable and/or compensable events, instructions that have or have not been given or other work requiring time and/or cost beyond that specified or envisioned within the original contract.

**Requests for contractor action (RCA)** – Request generated by the Department where the Department asks the Contractor to take certain action that is in the best interests of the project and/or is required for proper completion of a portion of the Work or for project completion.

**Contract change directives (CCD)** – Directive by the Department which instructs the Contractor to perform work beyond that specified or envisioned in the original contract and which may specify instructions, time, and cost(s) to make an equitable adjustment to the original contract.

**Responsible Person** – The individual in the normal or escalated resolution process, for either the Contractor or the Department, having the direct authority, responsibility and accountability to formulate and respond to each category of information request.

## **III. PROCESS FOR DECISION MAKING**

Project teams composed on responsible individuals directly involved in the administration, prosecution, and inspection of the Work from the Contractor and the Department shall define and agree upon the field decision-making process during the pre-construction conference. This information relative to the process should be written down and distributed to all parties of the process once it is established. Where there are responsibility, authority or personnel changes associated with this process such changes shall be distributed to all affected parties as quickly as practicable after they are effective so as not to delay or impede this process.

The process for making field decisions with respect to the Work detailed in the contract basically requires the following steps:

1. The Contractor and the Engineer agree on the decision-making process, the identity, authority and accountability of the individuals involved and on the cycle times for response for each category of decision.
2. The party requiring the information generates the appropriate request documents, and calls for a decision from the individual who is accountable for the particular facet of the Work under consideration within the agreed period.
3. The responding party has an internal decision-making process that supports the individual who is accountable and provides the information required within the agreed period for each category of request.
4. The party receiving the decision has an internal process for accepting the decision or referring it for further action within an agreed period of time.

The process also requires that clear and well-understood mechanisms be in place to log and track requests, document the age and status of outstanding requests and actions to be taken on requests that have not been answered within the agreed period.

Both the Department and the Contractor shall agree on the following:

- The documentation and perhaps format to be developed for each category of information requested,
- The name (as opposed to organizational position) of all individuals with the responsibility, authority and accountability to formulate and respond to each category of information requested. The District Administrator (DA) or Chief Executive Officer (CEO) of the Contractor may delegate the responsibility and authority for formulating and responding to requests, however, the accountability for meeting the established response time(s) remains with the District Administrator and CEO.
- The cycle times for each stage in the decision-making process,
- The performance measures to be used to manage the process,
- The action to be taken if cycle times are not achieved and information is not provided in a timely manner.

The following general guideline and timeframe matrix will apply to the various requests for action. Again, please note these guidelines are general in scope and may not apply to specific contract timeframes for response identified within the requirements of the Contract documents. In such cases, specific contract requirements for information shall apply.

## PROCESS GUIDELINES FOR REQUESTS GENERATED BY THE CONTRACTOR

Process	Situation	Normal resolution process		Escalated process		Final resolution
		By	Within (calendar days)	By	Within	
Submittal	Where the Contractor requests the Department's review, acceptance or approval of shop drawings, materials data, test reports, project progress schedules, or other submittals required by standard Specifications or other contract language.	Department's Designated Project Manager	<ul style="list-style-type: none"> <li>• Acknowledge: 3 days<sup>1</sup></li> <li>• Accept or Return: 14 days</li> <li>• Final Determination/Approve: 30 days or as outlined in contract documents.</li> </ul>	DA or their designee*	7 days	Submit ROA or CCR
Confirmation of Verbal Instruction (COVI)	Resolving routine field issues, within the framework of the Contract, in negotiation with Owner field personnel.	Department's Appropriate field personnel	<ul style="list-style-type: none"> <li>• Confirmation: 1 day<sup>2</sup></li> </ul>	Submit RFI, ROA or CCR	7 days	(See process for RFI, ROA, or CCR)
Request for Information (RFI)	Requests the Department to supply information to better understand or clarify a certain aspect of the work.	Department's Designated Project Manager	<ul style="list-style-type: none"> <li>• Action: 14 days (or appropriate Action Plan)</li> </ul>	DA or their designee*	7 days	Submit ROA or CCR
Request for Owner Action (ROA)	Requests that the Department take certain action the Contractor feels is required for proper completion of a portion of the Work or project completion.	Department's Designated Project Manager	<ul style="list-style-type: none"> <li>• Acknowledge: 3 days<sup>1</sup></li> <li>• Action: 14 days (or appropriate Action Plan)</li> </ul>	DA or their designee*	7 days	Submit CCR
Contract Change Request (CCR)	Requests the Department to make an equitable adjustment to the contract because of excusable and/or compensable events, instructions that have or have not been given or other work requiring time and/or cost beyond that specified or envisioned within the original contract.	Department's Designated Project Manager	<ul style="list-style-type: none"> <li>• Acknowledge: 3 days<sup>1</sup></li> <li>• Action: 30 days (45 days if federal oversight project)</li> </ul>	DA or their designee*	7 days	Established dispute resolution and claims process

<sup>1</sup> Process initiated on the last business day of a week shall be acknowledged before 5 pm on the next VDOT business day.

<sup>2</sup> The absence of a written confirmation from the Owner to a Contractor's written request for confirmation of a verbal instruction shall constitute confirmation of the verbal instruction.

## PROCESS GUIDELINES FOR REQUESTS GENERATED BY THE OWNER

Process	Situation	Normal resolution process		Escalated process		Final resolution
		By	Within (calendar days)	By	Within	
1. RFI	Requests the Contractor to supply information to better understand or clarify a certain aspect of the work. (RFI)	Contractor's Project Superintendent	<ul style="list-style-type: none"> <li>Action: 14 days (or appropriate written Action Plan)</li> </ul>	Contractor's Project Manager	7 days	Submit RCA or CCD
2. RCA	Requesting the Contractor take certain action(s) that is in the best interests of the project and/or is required for proper completion of a portion of the work or for project completion. (RCA)	Contractor's Project Superintendent	<ul style="list-style-type: none"> <li>Response or Action to safety and environmental issues: 1 day</li> <li>Otherwise acknowledge: 3 days<sup>1</sup></li> <li>Action: 14 days (or appropriate Action Plan)</li> </ul>	Contractor's Project Manager	7 days	Submit CCD
3. CCD	Instructs the Contractor to perform work beyond that specified or envisioned in the original contract and undertakes action(s) to make an equitable adjustment to the contract. (CCD)	Contractor's Project Superintendent	<ul style="list-style-type: none"> <li>Acknowledge: 3 days<sup>1</sup></li> <li>Action: 30 days</li> </ul>	CEO or their designee**	7 days	Established dispute resolution and termination process

<sup>1</sup> Process initiated on the last business day of a week shall be acknowledged before 5 p m on next project business day.

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
USE OF DOMESTIC MATERIAL

February 26, 2009

**SECTION 102.05 PREPARATION OF BID** of the Specifications is amended to include the following:

In accordance with the provisions of Section 635.410(b) of Title 23 CFR, hereinafter referred to as "Buy America", except as otherwise specified, all iron and steel products (including miscellaneous steel items such as fasteners, nuts, bolts and washers) to be permanently incorporated for use on federal aid projects shall be produced in the United States of America regardless of the percentage they exist in the manufactured product or final form they take. Therefore, "Domestically produced in the United States of America" means all manufacturing processes must occur in the United States of America, to mean, in one of the 50 States, the District of Columbia, Puerto Rico or in the territories and possessions of the United States. Manufacturing processes are defined as any process which alters or modifies the chemical content, physical size or shape or final finish of iron or steel material) such as rolling, extruding, bending, machining, fabrication, grinding, drilling, finishing, or coating whereby a raw material or a reduced iron ore material is changed, altered or transformed into a steel or iron item or product which, because of the process, is different from the original material. For the purposes of satisfying this requirement "coating" is defined as the application of epoxy, galvanizing, painting or any other such process that protects or enhances the value of the material. Materials used in the coating process need not be domestic materials.

For the purposes herein the manufacturing process is considered complete when the resultant product is ready for use as an item in the project (e.g. fencing, posts, girders, pipe, manhole covers, etc.) or is incorporated as a component of a more complex product by means of further manufacturing. Final assembly of a product may occur outside of the United States of America provided no further manufacturing process takes place.

Raw materials such as iron ore, pig iron, processed, pelletized and reduced iron ore, waste products (including scrap, that is, steel or iron no longer useful in its present form from old automobiles, machinery, pipe, railroad rail, or the like and steel trimmings from mills or product manufacturing) and other raw materials used in the production of steel and/or iron products may, however, be imported. Extracting, handling, or crushing the raw materials which are inherent to the transporting the materials for later use in the manufacturing process are exempt from Buy America. The use of foreign source steel or iron billet is not acceptable under the provisions of Buy America. For the purposes of this provision all steel or iron material not meeting the criteria as domestically produced in the United States of America will be considered as "foreign" material. All iron and steel items will be classified hereinafter as "domestic" or "foreign", identified by and subject to the provisions herein.

Domestically produced iron or steel ingots or billets shipped outside the United States of America for any manufacturing process and returned for permanent use in a project would not comply with "Buy America" requirements.

Buy America provisions do not apply to iron or steel products used temporarily in the construction of a project such as temporary sheet piling, temporary bridges, steel scaffolding, falsework or such temporary material or product or material that remains in place for the Contractor's convenience.

Section 635.410(b) of Title 23 CFR permits a minimal amount of steel or iron material to be incorporated in the permanent work on a federal-aid contract. The cost of such materials or products must not exceed one-tenth of one percent of the contract amount or \$2500, whichever is greater. The cost of the foreign iron or steel material is defined as its monetary value delivered to the job site and supported by invoices or bill of sale to the Contractor. This delivered to site cost must include transportation, assembly, installation and testing.



In the event the total cost of all "foreign" iron and steel product or material does not exceed one-tenth of one percent of the total contract cost or \$2,500, whichever is greater, the use of such material meeting the limitations herein will not be restricted by the domestic requirements herein. However, by signing the bid, the Bidder certifies that such cost does not exceed the limits established herein.

**Waivers:**

With prior concurrence from Federal Highway Administration (FHWA) headquarters, the Federal Highway Division Administrator may grant a waiver to specific projects provided it can be demonstrated:

1. that the use of domestic steel or iron materials would be inconsistent with the public interest; or
2. materials or products requested for use are not produced in the United States in sufficient or reasonably available quantities and are of satisfactory quality for use in the permanent work.

The waiver request shall be submitted with supportive information to include:

1. Project number\description, project cost, waiver item, item cost, country of origin for the product, reason for the waiver, and
2. Analysis of redesign of the project using alternative or approved equal domestic products

In order to grant such a waiver the request for the waiver must be published in the Federal Register for a period not less than 15 days or greater than 60 days prior to waiving such requirement. An initial 15 day comment period to the waiver will be available to the public by means of the FHWA website: <http://www.fhwa.dot.gov/construction/contracts/waivers.cfm>. Following that initial 15 day period of review and comment the request for waiver will be published by the FHWA in the Federal Register. The effective date of the FHWA finding, either to approve or deny the waiver request, will be 15 days following publication in the Federal Register.

Only the FHWA Administrator may grant nationwide waivers which still are subject to the public rulemaking and review process.

**Alternative Bidding Procedures:**

An alternative bidding procedure may be employed to justify the use of foreign iron and/or steel. To qualify under this procedure the total project is bid using two alternatives, one based on the use of domestic products and the other, the use of corresponding foreign source steel and/or iron materials.

In accordance with the provisions of Section 103.02 the Contract will be awarded to the lowest responsive and responsible bidder who submits the lowest total bid based on furnishing domestic iron or steel unless such total exceeds the lowest total bid based on furnishing foreign iron and/or steel by more than 25 percent, in which case the award will be made to the lowest responsive and responsible bidder furnishing foreign iron and/or steel based upon furnishing verifiable supportive data. The bidder shall submit a bid based on permanently incorporating only domestic iron and/or steel in the construction of the project. The bidder may also submit a bid for the same proposed contract based on being allowed to permanently incorporate corresponding foreign iron and/or steel materials meeting the other contract requirements into the work on the contract. If he chooses to submit such a bid, that alternate bid shall clearly indicate which foreign iron and/or steel items will be permanently installed in the work as well as contain prices for all other items listed in the corresponding domestic proposal to complete a total "Foreign" bid.

In the event the contract is awarded to the bidder furnishing foreign iron and/or steel materials or items the provision for price adjustment of steel items will be permitted, however, price fluctuations shall use the U.S. index as stated in the Special Provision for Price Adjustment For Steel. The Contractor must

indicate which corresponding eligible steel items he chooses price adjustment to apply. In the event the contract is awarded to a bidder furnishing foreign iron and/or steel items and during the life of that contract the Contractor discovers he can not furnish foreign iron and/or steel material as originally anticipated and agreed upon, he shall be responsible to honor the total bid price and furnish such iron and/or steel materials meeting the contract requirements from other sources as necessary to complete the work.

In the event the Contractor proposes to furnish "foreign" iron and steel and can verify a savings in excess of 25 percent of the overall project cost if bid using domestic materials, the Contractor shall submit a second complete paper bid proposal clearly marked "Foreign" including Form C-7 and supportive data supplement on all sheets. Supportive data shall list, but not be limited to, origin of material, best price offer, quantity and complete description of material, mill analysis, evidence or certification of conformance to contract requirements, etc. The "Foreign" bid shall be completed using the best price offer for each corresponding bid item supplying foreign material in the alternative bid and submit the same with the Contractor's "Domestic" bid. The Contractor shall write the word "Foreign" by the bid total shown on Form C-7 as well as last page of Schedule of Items showing the total bid amount. The bidder shall also contact the State Contract Engineer to inform him that he is also submitting an alternate "Foreign" paper bid..

The information listed on the supportive data sheet(s) will be used to provide the basis for verification of the required cost savings. In the event comparison of the prices given, or corrected as provided in Section 103.01 of the Specifications, shows that use of "foreign" iron and steel items does not represent a cost savings exceeding the aforementioned 25 percent, "domestic" iron and/or steel and prices given there for shall be used and the "100 percent Domestic Items Total" shall be the Contractor's bid.

#### **Certification of Compliance:**

Where domestic material is supplied, prior to final payment the Contractor shall furnish to the Department a certificate of compliance (such as may be furnished by steel mill test reports) that all steel and/or iron products supplied to the project except as may be permitted (one-tenth of one percent of the total contract cost or \$2,500, whichever is greater) and permanently incorporated into the work satisfies the domestic requirements herein. This certification shall contain a definitive statement about the origin of all products covered under the provisions of Buy America as stated herein.

In lieu of the Contractor providing personal certification, the Contractor may furnish a stepped certification in which each handler of the product, such as supplier, fabricator, manufacturer, processor, etc. furnishes an individual certification that their step in the process was domestically performed.

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS CONTROL AREAS**

August 12, 2010

**VOC Emission Control Area** - The Contractor is advised that this project may be located in a volatile organic compound (VOC) emissions control area identified in the State Air Control Board Regulations (9 VAC 5-20-206) and in Table 1 below. Therefore, the following limitations may apply:

- Open burning is prohibited during the months of May, June, July, August, and September in VOC Emissions Control areas
- Cutback asphalt is prohibited April through October except when use or application as a penetrating prime coat or tack is necessary in VOC Emissions Control areas

Table 1. Virginia Department of Environmental Quality Volatile Organic Compound (VOC) Emissions Control Areas\*

<b>VOC Emissions Control Area</b>	<b>VDOT District</b>	<b>Jurisdiction</b>
Northern Virginia	NOVA	Alexandria City Arlington County Fairfax County Fairfax City Falls Church City Loudoun County Manassas City Manassas Park City Prince William County
Northern Virginia	Fredericksburg	Stafford County
Fredericksburg	Fredericksburg	Spotsylvania County Fredericksburg City
Hampton Roads	Fredericksburg	Gloucester County
Hampton Roads	Hampton Roads	Chesapeake City Hampton City Isle of Wight County James City County Newport News City Norfolk City Poquoson City Portsmouth City Suffolk City Virginia Beach City Williamsburg City York County

Richmond	Richmond	Charles City County Chesterfield County Colonial Heights City Hanover County Henrico County Hopewell City Petersburg City Prince George County Richmond City
Western Virginia	Staunton	Frederick County Winchester City
Western Virginia	Salem	Roanoke County Botetourt County Roanoke City Salem City

\* Regulations for the Control and Abatement of Air Pollution (9 VAC 5-20-206)

See the Virginia Code 9 VAC 5-40, Article 39 (Emission Standards for Asphalt Paving Operations) and 9 VAC 5-130 (Regulation for Open Burning) for further clarification. In addition to the above requirements, the Contractor's attention is directed to the requirements of Section 107.16 of the Specifications, because other air pollution requirements may also apply.

## VIRGINIA DEPARTMENT OF TRANSPORTATION

**STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL PERMIT FOR THE  
DISCHARGE OF STORMWATER FROM CONSTRUCTION ACTIVITIES CONTRACTOR AND  
SUBCONTRACTOR CERTIFICATION STATEMENT**

Order No.: \_\_\_\_\_ Project Number: \_\_\_\_\_

Route: \_\_\_\_\_ Contract ID. #: \_\_\_\_\_

I certify under penalty of law that I understand the terms and conditions of the project contract, plans, permits, specifications and standards related to the erosion and sediment control, stormwater management and stormwater pollution prevention plan requirements for the affected activities associated with this project, the Virginia Stormwater Management Program (VSMP), and the General Permit for the Discharge of Stormwater from Construction Activities, if applicable to this project, issued by the Virginia Department of Conservation and Recreation. The VSMP Permit authorizes the storm water discharges associated with the construction activities from the project site identified and described in the bid documents and subsequent contract including any off-site support activities required for the complete fulfillment of the work therein.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Contracting Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Address/Description of Site: \_\_\_\_\_  
(Include off-site areas) \_\_\_\_\_

Certified on this date: \_\_\_\_\_

(Note: This form must be returned with performance and payment bonds)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**SECTION 107.15**

December 10, 2010

**Section 107.15** of the Specifications is replaced by the following:

**Section 107.15—Use of Disadvantaged Business Enterprises (DBEs)**

**A. Disadvantaged Business Enterprise (DBE) Program Requirements**

Any Contractor, subcontractor, supplier, DBE firm, and contract surety involved in the performance of work on a federal-aid contract shall comply with the terms and conditions of the United States Department of Transportation (USDOT) DBE Program as the terms appear in Part 26 of the Code of Federal Regulations (49 CFR as amended), the USDOT DBE Program regulations; and the Virginia Department of Transportation's (VDOT or the Department) Road and Bridge Specifications and DBE Program rules and regulations.

For the purposes of this provision, Contractor is defined as the Prime Contractor of the contract; and sub-contractor is defined as any DBE supplier, manufacturer, or subcontractor performing work or furnishing material, supplies or services to the contract. The Contractor shall physically include this same contract provision in every supply or work/service subcontract that it makes or executes with a subcontractor having work for which it intends to claim credit.

In accordance with 49 CFR Part 26 and VDOT's DBE Program requirements, the Contractor, for itself and for its subcontractors and suppliers, whether certified DBE firms or not, shall commit to complying fully with the auditing, record keeping, confidentiality, cooperation, and anti-intimidation or retaliation provisions contained in those federal and state DBE Program regulations. By bidding on this contract, and by accepting and executing this contract, the Contractor agrees to assume these contractual obligations and to bind the Contractor's subcontractors contractually to the same at the Contractor's expense.

The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award, administration, and performance of this contract. Failure by the Contractor to carry out these requirements is a material breach of this contract, which will result in the termination of this contract or other such remedy, as VDOT deems appropriate.

All administrative remedies noted in this provision are automatic unless the Contractor exercises the right of appeal within the required timeframe(s) specified herein. Appeal requirements, processes, and procedures shall be in accordance with guidelines stated herein and current at the time of the proceedings. Where applicable, the Department will notify the Contractor of any changes to the appeal requirements, processes, and procedures after receiving notification of the Contractor's desire to appeal.

All time frames referenced in this provision are expressed in business days unless otherwise indicated. Should the expiration of any deadline fall on a weekend or holiday, such deadline will automatically be extended to the next normal business day.

## **B. DBE Certification**

The only DBE firms eligible to perform work on a federal-aid contract for DBE contract goal credit are firms certified as Disadvantaged Business Enterprises by the Virginia Department of Minority Business Enterprise (DMBE) or the Metropolitan Washington Airports Authority (MWAA) in accordance with federal and VDOT guidelines. DBE firms must be certified in the specific work listed for DBE contract goal credit. A directory listing of certified DBE firms can be obtained from the Virginia Department of Minority Business Enterprise and the Metropolitan Washington Airports Authority Internet websites: <http://www.dmbv.virginia.gov/> ; <http://mwaa.com/362.htm>

## **C. Bank Services**

The Contractor and each subcontractor are encouraged to use the services of banks owned and controlled by socially and economically disadvantaged individuals. Such banking services and the fees charged for services typically will not be eligible for DBE Program contract goal credit. Such information is available from the VDOT's Internet Civil Rights Division website: <http://insidevdot/C7/Civil%20Rights/default.aspx>

## **D. DBE Program-Related Certifications Made by Bidders\Contractors**

By submitting a bid and by entering into any contract on the basis of that bid, the bidder/Contractor certifies to each of the following DBE Program-related conditions and assurances:

1. That the management and bidding officers of its firm agree to comply with the bidding and project construction and administration obligations of the USDOT DBE Program requirements and regulations of 49 CFR Part 26 as amended, and VDOT's Road and Bridge Specifications and DBE Program requirements and regulations.
2. Under penalty of perjury and other applicable penal law that it has complied with the DBE Program requirements in submitting the bid, and shall comply fully with these requirements in the bidding, award, and execution of the contract.
3. To ensure that DBE firms have been given full and fair opportunity to participate in the performance of the contract. The bidder certifies that all reasonable steps were, and will be, taken to ensure that DBE firms had, and will have, an opportunity to compete for and perform work on the contract. The bidder further certifies that the bidder shall not discriminate on the basis of race, color, age, national origin, or sex in the performance of the contract or in the award of any subcontract. Any agreement between a bidder and a DBE whereby the DBE promises not to provide quotations for performance of work to other bidders is prohibited.
4. As a bidder, good faith efforts were made to obtain DBE participation in the proposed contract at or above the goal for DBE participation established by VDOT. It has submitted as a part of its bid true, accurate, complete, and detailed documentation of the good faith efforts it performed to meet the contract goal for DBE participation. The bidder, by signing and submitting its bid, certifies the DBE participation information submitted within the stated time thereafter is true, correct, and complete, and that the information provided includes the names of all DBE firms that will participate in the contract, the specific line item(s) that each listed DBE firm will perform, and the creditable dollar amounts of the participation of each listed DBE. The specific line item must reference the VDOT line number and item number contained in the proposal.
5. The bidder further certifies, by signing its bid, it has committed to use each DBE firm listed for the specific work item shown to meet the contract goal for DBE participation. Award of the contract will be conditioned upon meeting these and other listed requirements of 49 CFR Part 26.53 and the contract documents. By signing the bid, the bidder certifies on

work that it proposes to sublet; it has made good faith efforts to seek out and consider DBEs as potential subcontractors. The bidder shall contact DBEs to solicit their interest, capability, and prices in sufficient time to allow them to respond effectively, and shall retain on file proper documentation to substantiate its good faith efforts. Award of the contract will be conditioned upon meeting these and other listed requirements of 49 CFR Part 26.53 and the contract documents.

6. Once awarded the contract, the Contractor shall make good faith efforts to utilize DBE firms to perform work designated to be performed by DBEs at or above the amount or percentage of the dollar value specified in the bidding documents. Further, the Contractor understands it shall not unilaterally terminate, substitute for, or replace any DBE firm that was designated in the executed contract in whole or in part with another DBE, any non-DBE firm, or with the Contractor's own forces or those of an affiliate of the Contractor without the prior written consent of VDOT as set out within the requirements of this provision.
7. Once awarded the contract, the Contractor shall designate and make known to the Department a liaison officer who is assigned the responsibility of administering and promoting an active and inclusive DBE program as required by 49 CFR Part 26 for DBEs. The designation and identity of this officer need be submitted only once by the Contractor during any twelve (12) month period at the preconstruction conference for the first contract the Contractor has been awarded during that reporting period. The Department will post such information for informational and administrative purposes at VDOT's Internet Civil Rights Division website.
8. Once awarded the contract, the Contractor shall comply fully with all regulatory and contractual requirements of the USDOT DBE Program, and that each DBE firm participating in the contract shall fully perform the designated work items with the DBE's own forces and equipment under the DBE's direct supervision, control, and management. Where a contract exists and where the Contractor, DBE firm, or any other firm retained by the Contractor has failed to comply with federal or VDOT DBE Program regulations and/or their requirements on that contract, VDOT has the authority and discretion to determine the extent to which the DBE contract regulations and/or requirements have not been met, and will assess against the Contractor any remedies available at law or provided in the contract in the event of such a contract breach.
9. In the event a bond surety assumes the completion of work, if for any reason VDOT has terminated the prime Contractor, the surety shall be obligated to meet the same DBE contract terms and requirements as were required of the original prime Contractor in accordance with the requirements of this specification.

#### **E. Disqualification of Bidder**

Bidders may be disqualified from bidding for failure to comply with the requirements of this Special Provision, the contract specifications, and VDOT Road and Bridge Specifications.



## F. Bidding Procedures

The following bidding procedures shall apply to the contract for DBE Program compliance purposes:

1. **Contract Goal, Good Faith Efforts Specified:** All bidders evidencing the attainment of DBE goal commitment equal to or greater than the required DBE goal established for the project must submit completed Form C-111, Minimum DBE Requirements, and Form C-48, Subcontractor/Supplier Solicitation and Utilization, as a part of the bid documents.

Form C-111 may be submitted electronically or may be faxed to the Department, but in no case shall the bidder's Form C-111 be received later than 10:00 a.m. the next business day after the time stated in the bid proposal for the receipt of bids. Form C-48 must be received within ten (10) business days after the bid opening.

If, at the time of submitting its bid, the bidder knowingly cannot meet or exceed the required DBE contract goal, it shall submit Form C-111 exhibiting the DBE participation it commits to attain as a part of its bid documents. The bidder shall then submit Form C-49, DBE Good Faith Efforts Documentation, within two (2) business days after the bid opening.

The lowest responsive and responsible bidder must submit its properly executed Form C-112, Certification of Binding Agreement, within three (3) business days after the bids are received. DBEs bidding as prime contractors are not required to submit Form C-112 unless they are utilizing other DBEs as subcontractors.

If, after review of the apparent lowest bid, VDOT determines the DBE requirements have not been met, the apparent lowest successful bidder must submit Form C-49, DBE Good Faith Efforts Documentation, which must be received by the Contract Engineer within two (2) business days after official notification of such failure to meet the aforementioned DBE requirements.

Forms C-48, C-49, C-111, and C-112 can be obtained from the VDOT website at:  
<http://vdotforms.vdot.virginia.gov/>

Instructions for submitting Form C-111 can be obtained from the VDOT website at:  
[http://www.virginiadot.org/business/resources/const/Exp\\_DBE\\_Commitments.pdf](http://www.virginiadot.org/business/resources/const/Exp_DBE_Commitments.pdf)

2. **Bid Rejection:** The failure of a bidder to submit the required documentation within the timeframes specified in the **Contract Goal, Good Faith Efforts Specified** section of this Special Provision may be cause for rejection of that bidder's bid.

If the lowest bidder is rejected for failure to submit the required documentation in the specified time frames, the Department may award the work to the next lowest bidder, or re-advertise the proposed work at a later date or proceed otherwise as determined by the Commonwealth.

3. **Good Faith Efforts Described:** In order to award a contract to a bidder that has failed to meet DBE contract goal requirements, VDOT will determine if the bidder's efforts were adequate good faith efforts, and if given all relevant circumstances, those efforts were made actively and aggressively to meet the DBE requirements. Efforts to obtain DBE participation are not good faith efforts if they could not reasonably be expected to produce a level of DBE participation sufficient to meet the DBE Program and contract goal requirements.

Good faith efforts may be determined through use of the following list of the types of actions the bidder may make to obtain DBE participation. This is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts of similar intent may be relevant in appropriate cases:

- (a) Soliciting through reasonable and available means, such as but not limited to, attendance at pre-bid meetings, advertising, and written notices to DBEs who have the capability to perform the work of the contract. Examples include: advertising in at least one daily/weekly/monthly newspaper of general circulation, as applicable; phone contact with a completely documented telephone log, including the date and time called, contact person, or voice mail status; and internet contacts with supporting documentation, including dates advertised. The bidder shall solicit this interest no less than five (5) business days before the bids are due so that the solicited DBEs have enough time to reasonably respond to the solicitation. The bidder shall determine with certainty if the DBEs are interested by taking reasonable steps to follow up initial solicitations as evidenced by documenting such efforts as requested on Form C-49, DBE Good Faith Efforts Documentation.
- (b) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to completely perform all portions of this work in its entirety or use its own forces;
- (c) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner, which will assist the DBEs in responding to a solicitation;
- (d) Negotiating for participation in good faith with interested DBEs;
  - 1. Evidence of such negotiation shall include the names, addresses, and telephone numbers of DBEs that were considered; dates DBEs were contacted; a description of the information provided regarding the plans, specifications, and requirements of the contract for the work selected for subcontracting; and, if insufficient DBE participation seems likely, evidence as to why additional agreements could not be reached for DBEs to perform the work;
  - 2. A bidder using good business judgment should consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and should take a firm's price, qualifications, and capabilities, as well as contract goals, into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not sufficient reason for a bidder's failure to meet the contract goal for DBE participation, as long as such costs are reasonable and comparable to costs customarily appropriate to the type of work under consideration. Also, the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make diligent good faith efforts. Bidders are not, however, required to accept higher quotes from DBEs if the price difference can be shown by the bidder to be excessive, unreasonable, or greater than would normally be expected by industry standards;
- (e) A bidder cannot reject a DBE as being unqualified without sound reasons based on a thorough investigation of the DBE's capabilities. The DBE's standing within its industry, membership in specific groups, organizations, associations, and political or social affiliations, and union vs. non-union employee status are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal for DBE participation;
- (f) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by VDOT or by the bidder/Contractor;

- (g) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services subject to the restrictions contained in these provisions;
- (h) Effectively using the services of appropriate personnel from VDOT and from DMBE; available minority/women community or minority organizations; contractors' groups; local, state, and Federal minority/ women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and utilization of qualified DBEs.

#### **G. Documentation and Administrative Reconsideration of Good Faith Efforts**

**During Bidding:** As described in the **Contract Goal, Good Faith Efforts Specified** section of this Special Provision, the bidder must provide Form C-49, DBE Good Faith Efforts Documentation, of its efforts made to meet the DBE contract goal as proposed by VDOT within the time frame specified in this provision. The means of transmittal and the risk for timely receipt of this information shall be the responsibility of the bidder. The bidder shall attach additional pages to the certification, if necessary, in order to fully detail specific good faith efforts made to obtain the DBE firms participation in the proposed contract work.

However, regardless of the DBE contract goal participation level proposed by the bidder or the extent of good faith efforts shown, all bidders shall timely and separately file their completed and executed forms C-111, C-112, C-48, and C-49, as aforementioned, or face potential bid rejection.

If a bidder does not submit its completed and executed forms C-111, or C-112, when required by this Special Provision, the bidder's bid will be considered non-responsive and may be rejected.

Where the Department upon initial review of the bid results determines the apparent low bidder has failed or appears to have failed to meet the requirements of the **Contract Goal, Good Faith Efforts Specified** section of this Special Provision and has failed to adequately document that it made a good faith effort to achieve sufficient DBE participation as specified in the bid proposal, that firm upon notification of the Department's initial determination will be offered the opportunity for administrative reconsideration before VDOT rejects that bid as non-responsive. The bidder shall address such request for reconsideration in writing to the Contract Engineer within five (5) business days of receipt of notification by the Department and shall be given the opportunity to discuss the issue and present its evidence in person to the Administrative Reconsideration Panel. The Administrative Reconsideration Panel will be made up of VDOT Division Administrators or their designees, none of who took part in the initial determination that the bidder failed to make the goal or make adequate good faith efforts to do so. After reconsideration, VDOT shall notify the bidder in writing of its decision and explain the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so.

If, after reconsideration, the Department determines the bidder has failed to meet the requirements of the contract goal and has failed to make adequate good faith efforts to achieve the level of DBE participation as specified in the bid proposal, the bidder's bid will be rejected.

If sufficient documented evidence is presented to demonstrate that the apparent low bidder made reasonable good faith efforts, the Department will award the contract and reduce the DBE requirement to the actual commitment identified by the lowest successful bidder at the time of its bid. The Contractor is still encouraged to seek additional DBE participation during the life of the contract.

However, such action will not relieve the Contractor of its responsibility for complying with the reduced DBE requirement during the life of the contract or any administrative sanctions as may be appropriate.

**During the Contract:** If a DBE, through no fault of the Contractor, is unable or unwilling to fulfill his agreement with the Contractor, the Contractor shall immediately notify the Department and provide all relevant facts. If a Contractor relieves a DBE subcontractor of the responsibility to perform work under their subcontract, the Contractor is encouraged to take the appropriate steps to obtain a DBE to perform an equal dollar value of the remaining subcontracted work. In such instances, the Contractor is expected to seek DBE participation towards meeting the goal during the performance of the contract.

If the Contractor fails to conform to the schedule of DBE participation as shown on the progress schedule, or at any point at which it is clearly evident that the remaining dollar value of allowable credit for performing work is insufficient to obtain the scheduled participation, and the Contractor has not taken the preceding actions, the Contractor and any aforementioned affiliates may be subject to disallowance of DBE credit until such time as conformance with the schedule of DBE participation is achieved.

**Project Completion:** If the Contractor fails upon completion of the project to meet the required participation, the Contractor and any prime contractual affiliates, as in the case of a joint venture, may be enjoined from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects for a period of 90 days.

Prior to enjoinder from bidding or denial to participate as a subcontractor for failure to comply with participation requirements, as provided hereinbefore, the Contractor may submit documentation to the State Construction Engineer to substantiate that failure was due solely to quantitative underrun(s), elimination of items subcontracted to DBEs, or to circumstances beyond their control, and that all feasible means have been used to obtain the required participation. The State Construction Engineer upon verification of such documentation shall make a determination whether or not the Contractor has met the requirements of the contract.

If it is determined that the aforementioned documentation is insufficient or the failure to meet required participation is due to other reasons, the Contractor may request an appearance before the Administrative Reconsideration Panel to establish that all feasible means were used to meet such participation requirements. The decision of the Administrative Reconsideration Panel shall be administratively final. If the decision is made to enjoin the Contractor from bidding on other VDOT work as described herein, the enjoinder period will begin upon the Contractor's failure to request a hearing within the designated time frame or upon the Administrative Reconsideration Panel's decision to enjoin, as applicable.

## H. DBE Participation for Contract Goal Credit

DBE participation on the contract will count toward meeting the DBE contract goal in accordance with the following criteria:

1. Cost-plus subcontracts will not be considered to be in accordance with normal industry practice and will not normally be allowed for credit.
2. The applicable percentage of the total dollar value of the contract or subcontract awarded to the DBE will be counted toward meeting the contract goal for DBE participation in accordance with the **DBE Program-Related Certifications Made by Bidders\Contractors** section of this Special Provision for the value of the work, goods, or services that are actually performed or provided by the DBE firm itself or subcontracted by the DBE to other DBE firms.
3. When a DBE performs work as a participant in a joint venture with a non-DBE firm, the Contractor may count toward the DBE goal only that portion of the total dollar value of the contract equal to the distinctly defined portion of the contract work that the DBE has performed with the DBE's own forces or in accordance with the provisions of this Section. The Department shall be contacted in advance regarding any joint venture involving both a DBE firm and a non-DBE firm to coordinate Department review and approval of the joint venture's organizational structure and proposed operation where the Contractor seeks to claim the DBE's credit toward the DBE contract goal.
4. When a DBE subcontracts part of the work of the contract to another firm, the value of that subcontracted work may be counted toward the DBE contract goal only if the DBE's subcontractor at a lower tier is a certified DBE. Work that a DBE subcontracts to either a non-DBE firm or to a non-certified DBE firm will not count toward the DBE contract goal. The cost of supplies and equipment a DBE subcontractor purchases or leases from the prime Contractor or the prime's affiliated firms will not count toward the contract goal for DBE participation.
5. The Contractor may count expenditures to a DBE subcontractor toward the DBE contract goal only if the DBE performs a Commercially Useful Function (CUF) on that contract.
6. A Contractor may not count the participation of a DBE subcontractor toward the Contractor's final compliance with the DBE contract goal obligations until the amount being counted has actually been paid to the DBE. A Contractor may count sixty (60) percent of its expenditures actually paid for materials and supplies obtained from a DBE certified as a regular dealer, and one hundred (100) percent of such expenditures actually paid for materials and supplies obtained from a certified DBE manufacturer.
  - (a) For the purposes of this Special Provision, a regular dealer is defined as a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles, or equipment required and used under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the DBE firm shall be an established business that regularly engages, as its principal business and under its own name, in the purchase and sale or lease of the products or equipment in question. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions will not be considered regular dealers.
  - (b) A DBE firm may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business where it keeps such items in stock if the DBE both owns and operates distribution equipment for the products it sells and provides for the contract work. Any supplementation of a regular dealer's own distribution equipment shall be by a long-

term lease agreement and not on an *ad hoc* or contract-by-contract basis to be eligible for credit to meet the DBE contract goal.

- (c) If a DBE regular dealer is used for DBE contract goal credit, no additional credit will be given for hauling or delivery to the project site goods or materials sold by that DBE regular dealer. Those delivery costs shall be deemed included in the price charged for the goods or materials by the DBE regular dealer, who shall be responsible for their distribution.
- (d) For the purposes of this Special Provision, a manufacturer will be defined as a firm that operates or maintains a factory or establishment that produces on the premises the materials, supplies, articles, or equipment required under the contract and of the general character described by the project specifications. A manufacturer shall include firms that produce finished goods or products from raw or unfinished material, or purchase and substantially alter goods and materials to make them suitable for construction use before reselling them.
- (g) A Contractor may count toward the DBE contract goal the following expenditures to DBE firms that are not regular dealers or manufacturers for DBE program purposes:
  - 1. The entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant or managerial services, or for providing bonds or insurance specifically required for the performance of the federal-aid contract, if the fee is reasonable and not excessive or greater than would normally be expected by industry standards for the same or similar services.
  - 2. The entire amount of that portion of the construction contract that is performed by the DBE's own forces and equipment under the DBE's supervision. This includes the cost of supplies and materials ordered and paid for by the DBE for contract work, including supplies purchased or equipment leased by the DBE, except supplies and equipment a DBE subcontractor purchases or leases from the prime Contractor or its affiliates.
- (h) A Contractor may count toward the DBE contract goal one hundred (100) percent of the fees paid to a DBE trucker or hauler for the delivery of material and supplies required on the project job site, but not for the cost of those materials or supplies themselves, provided that the trucking or hauling fee is determined by VDOT to be reasonable, as compared with fees customarily charged by non-DBE firms for similar services. A Contractor shall not count costs for the removal or relocation of excess material from or on the job site when the DBE trucking company is not the manufacturer of or a regular dealer in those materials and supplies. The DBE trucking firm shall also perform a Commercially Useful Function (CUF) on the project and not operate merely as a pass through for the purposes of gaining credit toward the DBE contract goal. Prior to submitting a bid, the Contractor shall determine, or contact the VDOT Civil Rights Division or its district Offices for assistance in determining, whether a DBE trucking firm will meet the criteria for performing a CUF on the project. See section on **Miscellaneous DBE Program Requirements; Factors used to Determine if a DBE Trucking Firm is Performing a CUF**.
- (i) The Contractor will receive DBE contract goal credit for the fees or commissions charged by and paid to a DBE broker who arranges or expedites sales, leases, or other project work or service arrangements provided that those fees are determined by VDOT to be reasonable and not excessive as compared with fees customarily charged by non-DBE firms for similar services. For the purposes of this Special Provision, a broker is defined as a person or firm that regularly engages in arranging for delivery of material, supplies, and equipment, or regularly arranges for the providing of project services as a course of routine business but does not own or operate the delivery

equipment necessary to transport materials, supplies, or equipment to or from a job site.

#### **I. Performing a Commercially Useful Function (CUF)**

No credit toward the DBE contract goal will be allowed for contract payments or expenditures to a DBE firm if that DBE firm does not perform a CUF on that contract. A DBE performs a CUF when the DBE is solely responsible for execution of a distinct element of the contract work and the DBE actually performs, manages, and supervises the work involved with the firm's own forces or in accordance with the provisions of the **DBE Participation for Contract Goal Credit** section of this Special Provision. To perform a CUF the DBE alone shall be responsible and bear the risk for the material and supplies used on the contract, selecting a supplier or dealer from those available, negotiating price, determining quality and quantity, ordering the material and supplies, installing those materials with the DBE's own forces and equipment, and paying for those materials and supplies. The amount the DBE firm is to be paid under the contract shall be commensurate with the work the DBE actually performs and the DBE credit claimed for the DBE's performance.

**Monitoring CUF Performance:** It shall be the Contractor's responsibility to ensure that all DBE firms selected for subcontract work on the contract, for which he seeks to claim credit toward the contract goal, perform a CUF. Further, the Contractor is responsible for and shall ensure that each DBE firm fully performs the DBE's designated tasks with the DBE's own forces and equipment under the DBE's own direct supervision and management or in accordance with the provisions of the **DBE Participation for Contract Goal Credit** section of this Special Provision. For the purposes of this provision the DBE's equipment will mean either equipment directly owned by the DBE as evidenced by title, bill of sale or other such documentation, or leased by the DBE, and over which the DBE has control as evidenced by the leasing agreement from a firm not owned in whole or part by the prime Contractor or an affiliate of the Contractor under this contract.

VDOT will monitor the Contractor's DBE involvement during the performance of the contract. However, VDOT is under no obligation to warn the Contractor that a DBE's participation will not count toward the goal.

**DBEs Must Perform a Useful and Necessary Role in Contract Completion:** A DBE does not perform a commercially useful function if the DBE's role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.

**DBEs Must Perform The Contract Work With Their Own Workforces:** If a DBE does not perform and exercise responsibility for at least thirty (30) percent of the total cost of the DBE's contract with the DBE's own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involve, VDOT will presume that the DBE is not performing a CUF and such participation will not be counted toward the contract goal.

**VDOT Makes Final Determination On Whether a CUF Is Performed:** VDOT has the final authority to determine whether a DBE firm has performed a CUF on a federal-aid contract. To determine whether a DBE is performing or has performed a CUF, VDOT will evaluate the amount of work subcontracted by that DBE firm or performed by other firms and the extent of the involvement of other firms' forces and equipment. Any DBE work performed by the Contractor or by employees or equipment of the Contractor shall be subject to disallowance under the DBE Program, unless the independent validity and need for such an arrangement and work is demonstrated.

#### **J. Verification of DBE Participation and Imposed Damages**

Within fourteen days after contract execution, the Contractor shall submit to the Responsible Engineer, with a copy to the District Civil Rights Office (DCRO), a fully executed subcontract agreement for each DBE used to claim credit in accordance with the requirements stated on Form C-112. The subcontract agreement shall be executed by both parties stating the work to be performed, the details or specifics concerning such work, and the price which will be paid to the DBE subcontractor. Because of the commercial damage that the Contractor and its DBE subcontractor could suffer if their subcontract pricing, terms, and conditions were known to competitors, the Department staff will treat subcontract agreements as proprietary Contractor trade secrets with regard to Freedom of Information Act requests. In lieu of subcontract agreements, purchase orders may be submitted for haulers, suppliers, and manufacturers. These too, will be treated confidentially and protected. Such purchase orders must contain, as a minimum, the following information: authorized signatures of both parties; description of the scope of work to include contract item numbers, quantities, and prices; and required federal contract provisions.

The Contractor shall also furnish, and shall require each subcontractor to furnish, information relative to all DBE involvement on the project for each quarter during the life of the contract in which participation occurs and verification is available. The information shall be indicated on Form C-63, DBE and SWAM Payment Compliance Report. The department reserves the right to request proof of payment via copies of cancelled checks with appropriate identifying notations. Failure to provide Form C-63 to the District Civil Rights Office (DCRO) within five (5) business days after the reporting period may result in delay of approval of the Contractor's monthly progress estimate for payment. The names and certification numbers of DBE firms provided by the Contractor on the various forms indicated in this Special Provision shall be exactly as shown on the DMBE's or MWAA's latest list of certified DBEs. Signatures on all forms indicated herein shall be those of authorized representatives of the Contractor as shown on the Prequalification Application, Form C-32 or the Prequalification/Certification Renewal Application, Form C-32A, or authorized by letter from the Contractor. If DBE firms are used which have not been previously documented with the Contractor's bid and for which the Contractor now desires to claim credit toward the project goal, the Contractor shall be responsible for submitting necessary documentation in accordance with the procedures stipulated in this Special Provision to cover such work prior to the DBE beginning work.

Form C-63 can be obtained from the VDOT website at: <http://vdotforms.vdot.virginia.gov/>

The Contractor shall submit to the Responsible Engineer its progress schedule with a copy to the DCRO, as required by Section 108.03 of the Specifications or other such specific contract scheduling specification that may include contractual milestones, i.e., monthly or VDOT requested updates. The Contractor shall include a narrative of applicable DBE activities relative to work activities of the Contractor's progress schedule, including the approximate start times and durations of all DBE participation to be claimed for credit that shall result in full achievement of the DBE goal required in the contract.

On contracts awarded on the basis of good faith efforts, narratives or other agreeable format of schedule information requirements and subsequent progress determination shall be based on the commitment information shown on the latest Form C-111 as compared with the appropriate Form C-63.

Prior to beginning any major component or quarter of the work, as applicable, in which DBE work is to be performed, the Contractor shall furnish a revised Form C-111 showing the name(s) and certification number(s) of any current DBEs not previously submitted who will perform the work during that major component or quarter for which the Contractor seeks to claim credit toward the contract DBE goal. The Contractor shall obtain the prior approval of the Department for any assistance it may provide to the DBE beyond its existing resources in executing its commitment to the work in accordance with the requirements listed in the **Good Faith Efforts Described** section of this Special Provision. If the Contractor is aware of any assistance beyond a DBE's existing resources that the Contractor, or another subcontractor, may be contemplating or may deem necessary and that have not been previously approved,



the Contractor shall submit a new or revised narrative statement for VDOT's approval prior to assistance being rendered.

If the Contractor fails to comply with correctly completing and submitting any of the required documentation requested by this provision within the specified time frames, the Department will withhold payment of the monthly progress estimate until such time as the required submissions are received VDOT. Where such failures to provide required submittals or documentation are repeated the Department will move to enjoin the Contractor and any prime contractual affiliates, as in the case of a joint venture, from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects until such submissions are received.

#### **K. Documentation Required for Semi-final Payment**

On those projects nearing completion, the Contractor must submit Form C-63 marked "Semi-Final" within twenty (20) days after the submission of the last regular monthly progress estimate to the DCRO. The form must include each DBE used on the contract work and the work performed by each DBE. The form shall include the actual dollar amount paid to each DBE for the accepted creditable work on the contract. The form shall be certified under penalty of perjury, or other applicable law, to be accurate and complete. VDOT will use this certification and other information available to determine applicable DBE credit allowed to date by VDOT and the extent to which the DBEs were fully paid for that work. The Contractor shall acknowledge by the act of filing the form that the information is supplied to obtain payment regarding a federal participation contract. A letter of certification, signed by both the prime Contractor and appropriate DBEs, will accompany the form, indicating the amount, including any retainage, if present, that remains to be paid to the DBE(s).

#### **L. Documentation Required for Final Payment**

On those projects that are complete, the Contractor shall submit a final Form C-63 marked "Final" to the DCRO, within thirty (30) days of the final estimate. The form must include each DBE used on the contract and the work performed by each DBE. The form shall include the actual dollar amount paid to each DBE for the creditable work on the contract. VDOT will use this form and other information available to determine if the Contractor and DBEs have satisfied the DBE contract goal percentage specified in the contract and the extent to which credit was allowed. The Contractor shall acknowledge by the act of signing and filing the form that the information is supplied to obtain payment regarding a federal participation contract.

#### **M. Prompt Payment Requirements**

The Contractor shall make prompt and full payment to the subcontractor(s) of any retainage held by the prime Contractor after the subcontractor's work is satisfactorily completed.

For purposes of this Special Provision, a subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished, documented, and accepted as required by the contract documents by VDOT. When VDOT has made partial acceptance of a portion of the prime contract, the Department will consider the work of any subcontractor covered by that partial acceptance to be satisfactorily completed. Payment will be made in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Specifications.

Upon VDOT's payment of the subcontractor's portion of the work as shown on the monthly progress estimate and the receipt of payment by the Contractor for such work, the Contractor shall make compensation in full to the subcontractor for that portion of the work satisfactorily completed and accepted by the Department. For the purposes of this Special Provision, payment of the subcontractor's portion of the work shall mean the Contractor has issued payment in full, less agreed upon retainage, if any, to the subcontractor for that portion of the subcontractor's work that VDOT paid to the Contractor on the monthly progress estimate.

The Contractor shall make payment of the subcontractor's portion of the work within seven (7) days of the receipt of payment from VDOT in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Specifications.

If the Contractor fails to make payment for the subcontractor's portion of the work within the time frame specified herein, the subcontractor shall contact the Responsible Engineer and the Contractor's bonding company in writing. The bonding company and VDOT will investigate the cause for non-payment and, barring mitigating circumstances that would make the subcontractor ineligible for payment, ensure payment in accordance with the requirements of Section 107.01, Section 109.08, and Section 109.09 of the Specifications.

By bidding on this contract, and by accepting and executing this contract, the Contractor agrees to assume these contractual obligations, and to bind the Contractor's subcontractors contractually to those prompt payment requirements.

Nothing contained herein shall preclude the Contractor from withholding payment to the subcontractor in accordance with the terms of the subcontract in order to protect the Contractor from loss or cost of damage due to a breach of agreement by the subcontractor.

#### **N. Miscellaneous DBE Program Requirements**

**Loss of DBE Eligibility:** When a DBE firm has been removed from eligibility as a certified DBE firm, the following actions will be taken:

1. When a Bidder/Contractor has made a commitment to use a DBE firm that is not currently certified, thereby making the Contractor ineligible to receive DBE participation credit for work performed, and a subcontract has not been executed, the ineligible DBE firm does not count toward either the contract goal or overall goal. The Contractor shall meet the contract goal with a DBE firm that is eligible to receive DBE credit for work performed, or must demonstrate to the Contract Engineer that it has made good faith efforts to do so.
2. When a Bidder/Contractor has executed a subcontract with a certified DBE firm prior to official notification of the DBE firm's loss of eligibility, the Contractor may continue to use the firm on the contract and shall continue to receive DBE credit toward its DBE goal for the subcontractor's work.
3. When VDOT has executed a prime contract with a DBE firm that is certified at the time of contract execution but that is later ruled ineligible, the portion of the ineligible firm's performance on the contract before VDOT has issued the notice of its ineligibility shall count toward the contract goal.

**Termination of DBE:** If a certified DBE subcontractor is terminated, or fails, refuses, or is unable to complete the work on the contract for any reason, the Contractor must promptly request approval to substitute or replace that firm in accordance with this section of this Special Provision.

The Contractor, as aforementioned in **DBE Program-Related Certifications Made by Bidders/Contractors**, shall notify VDOT in writing before terminating and/or replacing the DBE that was committed as a condition of contract award or that is otherwise being used or represented to fulfill DBE contract obligations during the contract performance period. Written consent from the Department for terminating the performance of any DBE shall be granted only when the Contractor can demonstrate that the DBE is unable, unwilling, or ineligible to perform its obligations for which the Contractor sought credit toward the contract DBE goal. Such written consent by the Department to terminate any DBE shall concurrently constitute written consent to substitute or replace the terminated DBE with another DBE. Consent to terminate a

DBE shall not be based on the Contractor's ability to negotiate a more advantageous contract with another subcontractor whether that subcontractor is, or is not, a certified DBE.

1. All Contractor requests to terminate, substitute, or replace a certified DBE shall be in writing, and shall include the following information:
  - (a) The date the Contractor determined the DBE to be unwilling, unable, or ineligible to perform.
  - (b) The projected date that the Contractor shall require a substitution or replacement DBE to commence work if consent is granted to the request.
  - (c) A brief statement of facts describing and citing specific actions or inaction by the DBE giving rise to the Contractor's assertion that the DBE is unwilling, unable, or ineligible to perform;
  - (d) A brief statement of the affected DBE's capacity and ability to perform the work as determined by the Contractor;
  - (e) A brief statement of facts regarding actions taken by the Contractor which are believed to constitute good faith efforts toward enabling the DBE to perform;
  - (f) The current percentage of work completed on each bid item by the DBE;
  - (g) The total dollar amount currently paid per bid item for work performed by the DBE;
  - (h) The total dollar amount per bid item remaining to be paid to the DBE for work completed, but for which the DBE has not received payment, and with which the Contractor has no dispute;
  - (i) The total dollar amount per bid item remaining to be paid to the DBE for work completed, but for which the DBE has not received payment, and over which the Contractor and/or the DBE have a dispute.
2. Contractor's Written Notice to DBE of Pending Request to Terminate and Substitute with another DBE.

The Contractor shall send a copy of the "request to terminate and substitute" letter to the affected committed DBE firm, in conjunction with submitting the request to the DCRO. The affected DBE firm may submit a response letter to the Department within two (2) business days of receiving the notice to terminate from the Contractor. The affected DBE firm shall explain its position concerning performance on the committed work. The Department will consider both the Contractor's request and the DBE's response and explanation before approving the Contractor's termination and substitution request, or determining if any action should be taken against the Contractor.

If, after making its best efforts to deliver a copy of the "request to terminate and substitute" letter, the Contractor is unsuccessful in notifying the affected DBE firm, the Department will verify that the affected, committed DBE firm is unable or unwilling to continue the contract. The Department will immediately approve the Contractor's request for a substitution.

3. Proposed Substitution of Another Certified DBE

Upon termination of a DBE, the Contractor shall use reasonable good faith efforts to replace the terminated DBE. The termination of such DBE shall not relieve the Contractor of its obligations pursuant to this section, and the unpaid portion of the terminated DBE's contract will not be counted toward the contract goal.

When a DBE substitution is necessary, the Contractor shall submit an amended Form C-111 with the name of another DBE firm, the proposed work to be performed by that firm, and the dollar amount of the work to replace the unfulfilled portion of the work of the originally committed DBE firm. The Contractor shall furnish all pertinent information including the contract I.D. number, project number, bid item, item description, bid unit and bid quantity, unit price, and total price. In addition, the Contractor shall submit documentation for the requested substitute DBE as described in this section of this Special Provision.

Should the Contractor be unable to commit the remaining required dollar value to the substitute DBE, the Contractor shall provide written evidence of good faith efforts made to obtain the substitute value requirement. The Department will review the quality, thoroughness, and intensity of those efforts. Efforts that are viewed by VDOT as merely superficial or pro-forma will not be considered good faith efforts to meet the contract goal for DBE participation. The Contractor must document the steps taken that demonstrated its good faith efforts to obtain participation as set forth in the **Good Faith Efforts Described** section of this Special Provision.

#### **Factors Used to determine if a DBE Trucking Firm is performing a CUF:**

The following factors will be used to determine whether a DBE trucking company is performing a CUF:

1. To perform a CUF the DBE trucking firm shall be completely responsible for the management and supervision of the entire trucking operation for which the DBE is responsible by subcontract on a particular contract. There shall not be a contrived arrangement, including, but not limited to, any arrangement that would not customarily and legally exist under regular construction project subcontracting practices for the purpose of meeting the DBE contract goal;
2. The DBE must own and operate at least one fully licensed, insured, and operational truck used in the performance of the contract work. This does not include a supervisor's pickup truck or a similar vehicle that is not suitable for and customarily used in hauling the necessary materials or supplies;
3. The DBE receives full contract goal credit for the total reasonable amount the DBE is paid for the transportation services provided on the contract using trucks the DBE owns, insures, and operates using drivers that the DBE employs and manages;
4. The DBE may lease trucks from another certified DBE firm, including from an owner-operator who is certified as a DBE. The DBE firm that leases trucks from another DBE will receive credit for the total fair market value actually paid for transportation services the lessee DBE firm provides on the contract;
5. The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit for the total value of the transportation services provided by non-DBE lessees, *not to exceed the value of transportation services provided by DBE-owned trucks on the contract*. For additional participation by non-DBE lessees, the DBE will only receive credit for the fee or commission it receives as a result of the lease arrangement.

#### **EXAMPLE**

DBE Firm X uses two (2) of its own trucks on a contract. The firm leases two (2) trucks from DBE Firm Y and six (6) trucks from non-DBE Firm Z.

**Firm X**

**Value of Trans. Serv.**

(For Illustrative

		Purposes Only)
Truck 1	Owned by DBE	\$100 per day
Truck 2	Owned by DBE	\$100 per day

**Firm Y**

Truck 1	Leased from DBE	\$110 per day
Truck 2	Leased from DBE	\$110 per day

**Firm Z**

Truck 1	Leased from Non DBE	\$125 per day
Truck 2	Leased from Non DBE	\$125 per day
Truck 3	Leased from Non DBE	\$125 per day
Truck 4	Leased from Non DBE	\$125 per day
Truck 5	Leased from Non DBE*	\$125 per day
Truck 6	Leased from Non DBE*	\$125 per day

DBE credit would be awarded for the total transportation services provided by DBE Firm X and DBE Firm Y, and may also be awarded for the total value of transportation services by four (4) of the six (6) trucks provided by non-DBE Firm Z (not to exceed the value of transportation services provided by DBE-owned trucks).

**Credit = 8 Trucks**

**Total Value of Transportation Services = \$820**

In all, full DBE credit would be allowed for the participation of eight (8) trucks (twice the number of DBE trucks owned and leased) and the dollar value attributable to the Value of Transportation Services provided by the 8 trucks.

\* With respect to the other two trucks provided by non-DBE Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks that DBE Firm X receives as a result of the lease with non-DBE Firm Z.

6. For purposes of this section, the lease must indicate that the DBE firm leasing the truck has exclusive use of and control over the truck. This will not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, provided the lease gives the DBE absolute priority for and control over the use of the leased truck. Leased trucks must display the name and identification number of the DBE firm that has leased the truck at all times during the life of the lease.

**Data Collection:** In accordance with 49CFR Section 26.11, all firms bidding on prime contracts and bidding or quoting subcontracts on federal-aid projects shall provide the following information to the Contract Engineer annually.

- Firm name
- Firm address
- Firm's status as a DBE or non-DBE
- The age of the firm and
- The annual gross receipts of the firm

The means of transmittal and the risk for timely receipt of this information shall be the responsibility of the bidder. However, the above information can be submitted by means of the Annual Gross Receipts Survey as required in the Prequalification/Certification application.

All bidders, including DBE prime Contractor bidders, shall complete and submit to the Contract Engineer the Subcontractor/Supplier Solicitation and Utilization Form C-48 for each bid submitted; to be received within ten (10) business days after the bid opening. Failure of bidders to submit this form in the time frame specified may be cause for disqualification of the bidder and rejection of their bid in accordance with the requirements of this Special Provision, the contract specifications, and VDOT Road and Bridge specifications.

#### **O. Suspect Evidence of Criminal Behavior**

Failure of a bidder, Contractor, or subcontractor to comply with the Virginia Department of Transportation Road and Bridge Specifications and these Special Provisions wherein there appears to be evidence of criminal conduct shall be referred to the Attorney General for the Commonwealth of Virginia and/or the FHWA Inspector General for criminal investigation and, if warranted, prosecution.

#### **Suspected DBE Fraud**

In appropriate cases, VDOT will bring to the attention of the U. S. Department of Transportation (USDOT) any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g., referral to the Department of Justice for criminal prosecution, referral to the USDOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules provided in 49CFR Part 31.

#### **P. Summary of Remedies for Non-Compliance with DBE Program Requirements**

Failure of any bidder\Contractor to comply with the requirements of this Special Provision for Section 107.15 of the Virginia Road and Bridge Specifications, which is deemed to be a condition of bidding, or where a contract exists, is deemed to constitute a breach of contract shall be remedied in accordance with the following:

## **1. Disadvantaged Business Enterprise (DBE) Program Requirements**

The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award, administration, and performance of this contract. Failure by the Contractor to carry out these requirements is a material breach of this contract, which will result in the termination of this contract or other such remedy, as VDOT deems appropriate.

All administrative remedies noted in this provision are automatic unless the Contractor exercises the right of appeal within the required timeframe(s) specified herein.

## **2. DBE Program-Related Certifications Made by Bidders\Contractors**

Once awarded the contract, the Contractor shall comply fully with all regulatory and contractual requirements of the USDOT DBE Program, and that each certified DBE firm participating in the contract shall fully perform the designated work items with the DBE's own forces and equipment under the DBE's direct supervision, control, and management. Where a contract exists and where the Contractor, DBE firm, or any other firm retained by the Contractor has failed to comply with federal or VDOT DBE Program regulations and/or their requirements on that contract, VDOT has the authority and discretion to determine the extent to which the DBE contract requirements have not been met, and will assess against the Contractor any remedies available at law or provided in the contract in the event of such a contract breach.

## **3. Disqualification of Bidder**

Bidders may be disqualified from bidding for failure to comply with the requirements of this Special Provision, the contract specifications, and VDOT Road and Bridge Specifications.

## **4. Bidding Procedures**

The failure of a bidder to submit the required documentation within the timeframes specified in the **Contract Goal, Good Faith Efforts Specified** section of this Special Provision may be cause for rejection of that bidder's bid. If the lowest bidder is rejected for failure to submit required documentation in the specified time frames, the Department may either award the work to the next lowest bidder, or re-advertise and construct the work under contract or otherwise as determined by the Commonwealth.

In order to award a contract to a bidder that has failed to meet DBE contract goal requirements, VDOT will determine if the bidder's efforts were adequate good faith efforts, and if given all relevant circumstances, those efforts were to the extent a bidder actively and aggressively seeking to meet the requirements would make. Regardless of the DBE contract goal participation level proposed by the bidder or the extent of good faith efforts shown, all bidders shall timely and separately file their completed and executed Forms C-111, C-112, C-48, and Form C-49, as aforementioned, or face potential bid rejection. If a bidder does not submit its completed and executed C-111, or C-112, when required by this Special Provision, the bidder's bid will be considered non-responsive and may be rejected. If, after reconsideration, the Department determines the bidder has failed to meet the requirements of the contract goal and has failed to make adequate good faith efforts to achieve the level of DBE participation as specified in the bid proposal, the bidder's bid will be rejected. If sufficient documented evidence is presented to demonstrate that the apparent low bidder made reasonable good faith efforts, the Department will award the contract and reduce the DBE requirement to the actual commitment identified by the lowest successful bidder at the time of its bid. The Contractor is encouraged to seek additional participation during the life of the contract.

If the Contractor fails to conform to the schedule of DBE participation as shown on the progress schedule, or at any point at which it is clearly evident that the remaining dollar value of allowable credit for performing work is insufficient to obtain the scheduled participation, the Contractor and any aforementioned affiliates may be enjoined from bidding for 60 days or until such time as conformance with the schedule of DBE participation is achieved. In such instances, the Contractor is expected to seek DBE participation towards meeting the goal during the prosecution of the contract.

If the Contractor fails upon completion of the project to meet the required participation, the Contractor and any prime contractual affiliates, as in the case of a joint venture, may be enjoined from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects for a period of 90 days.

Prior to enjoinder from bidding or denial to participate as a subcontractor for failure to comply with participation requirements, as provided hereinbefore, the Contractor may submit documentation to the State Construction Engineer to substantiate that failure was due solely to quantitative underrun(s) or elimination of items subcontracted to DBEs, and that all feasible means have been used to obtain the required participation. The State Construction Engineer upon verification of such documentation shall make a determination whether or not the Contractor has met the requirements of the contract.

If it is determined that the aforementioned documentation is insufficient or the failure to meet required participation is due to other reasons, the Contractor may request an appearance before the Administrative Reconsideration Panel to establish that all feasible means were used to meet such participation requirements. The decision of the Administrative Reconsideration Panel shall be administratively final. The enjoinder period will begin upon the Contractor's failure to request a hearing within the designated time frame or upon the Administrative Reconsideration Panel's decision to enjoin, as applicable.

## **5. Verification of DBE Participation and Imposed Damages**

If the Contractor fails to comply with correctly completing and submitting any of the required documentation requested by this provision within the specified time frames, the Department will withhold payment of the monthly progress estimate until such time as the required submissions are received by VDOT. Where such failures to provide required submittals or documentation are repeated the Department will move to enjoin the Contractor and any prime contractual affiliates, as in the case of a joint venture, from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects until such submissions are received.

In addition to the remedies described heretofore in this provision VDOT also exercises its rights with respect to the following remedies:

### **Suspect Evidence of Criminal Behavior**

Failure of a bidder, Contractor, or subcontractor to comply with the Virginia Department of Transportation Road and Bridge Specifications and these Special Provisions wherein there appears to be evidence of criminal conduct shall be referred to the Attorney General for the Commonwealth of Virginia and/or the FHWA Inspector General for criminal investigation and, if warranted prosecution.

In appropriate cases, VDOT will bring to the attention of the U. S. Department of Transportation (USDOT) any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g., referral to the Department of Justice for criminal prosecution, referral to the USDOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules provided in 49CFR Part 31.





——SELECT USE 100 SERIES SPs (SPECIAL PROVISIONS)——

NONE

**——STANDARD 100 SERIES SSs (SUPPLEMENTAL SPECIFICATIONS)——**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL DIVISION I—GENERAL PROVISIONS**

**SECTION 101—DEFINITIONS OF ABBREVIATIONS, ACRONYMS, AND TERMS**

**Section 101.02—Terms** of the Specifications is amended to replace the definition for **Notice to Proceed** with the following:

**Notice to Proceed.** A date selected by the Contractor that is no earlier than 15 nor later than 30 calendar days after the date of contract execution on which the Contractor intends to begin the work, or a contract specific date on which the Contractor may begin the work identified as the Notice to Proceed date in the Contract Documents.

Section 101.02 Terms of the Specifications is amended to add the following:

**Storm Sewer System** - A drainage system consisting of a series of at least two interconnecting pipes and structures (minimum of two drop inlets, manholes, junction boxes, etc.) designed to intercept and convey stormwater runoff from a specific storm event without surcharge.

**SECTION 102—BIDDING REQUIREMENTS AND CONDITIONS**

**Section 102.01—Prequalification of Bidders** of the Specifications is amended to replace the first paragraph of (a) with the following:

All prospective Bidders, including all members of a joint venture, must prequalify with the Department and shall have received a certification of qualification in accordance with the Rules Governing Prequalification Privileges prior to bidding. These rules and regulations can be found within the Department's Rules Governing Prequalification Privileges via the Prequalification Application. This requirement may be waived by a project-specific provision in the bid proposal.

All subcontractors must be prequalified prior to performing any work on the contract, except that prequalification will not be required for subcontractors only performing a service as defined by the Code of Virginia, or only performing work items noted in the proposal as "Specialty Items".

In order to be eligible for DBE credit under Special Provision for Section 107.15, DBE federal-aid contract subcontractors must be VDOT prequalified and DMBE certified at the time of bid submission. The prequalification and certification status of a DBE may affect the award of the contract to the prime contractor and the award of the subcontract to the DBE at any point during the contract.

**Section 102.04(c) Notice of Alleged Ambiguities** of the Specifications is amended to replace the first paragraph with the following:

If a word, phrase, clause, or any other portion of the proposal is alleged to be ambiguous, the Bidder shall submit to the State Contract Engineer a written notice of the alleged ambiguity not later than 10 days prior to the date of receipt of bids and request an interpretation thereof. This written notice shall be submitted via the CABB (Contractor Advertisement Bulletin Board) system located on the Construction website at [www.VDOT.Virginia.gov](http://www.VDOT.Virginia.gov). Authorized interpretations will be issued by the State Contract Engineer to each person who received a proposal and will be posted on the CABB system.

**Section 102.11— eVA Business-To-Government Vendor Registration** of the Specifications is replaced with the following:

Bidders are not required to be registered with "eVA Internet e-procurement solution" at the time bids are submitted, however, prior to award, the lowest responsive and responsible bidder must be registered with "eVA Internet e-procurement solution" or the bid will be rejected. Registration shall be performed by accessing the eVA website portal [www.eva.state.va.us](http://www.eva.state.va.us), following the instructions and complying with the requirements therein.

When registering with eVa it is the bidder's responsibility to enter or have entered their correct PA type address or addresses in eVa in order to receive payments on any contracts that the Department (VDOT) may award to them as the lowest responsive and responsible bidder. The Bidder shall also ensure their prequalification address(es) match those registered with eVa. Failure on the part of the bidder or Contractor to meet either of these requirements may result in late payment of monthly estimates.

## **SECTION 105—CONTROL OF WORK**

**Section 105.01—Notice to Proceed** of the Specifications is replaced with the following:

Unless otherwise indicated in the Contract, the Notice to Proceed date will be the date selected by the Contractor on which the Contractor intends to begin the work. That date shall be no earlier than 15 nor later than 30 calendar days after the date of contract execution. The State Contract Engineer will contact the Contractor on the date of contract execution to inform him that the contract has been executed. The State Contract Engineer will also confirm this date in the Letter of Contract Execution. Copies of the Letter of Contract Execution will be distributed to Department personnel involved in the administration of the Contract and to the Contractor. Within 10 calendar days after the date of contract execution the Contractor shall submit to the Engineer written notice of the date he has selected as his Notice to Proceed date. If the Contractor fails to provide written notice of his selected Notice to Proceed Date within 10 calendar days of contract execution, the selected Notice to Proceed Date will become the date 15 calendar days after the date of contract execution. The Contractor shall begin work no later than 10 calendar days after the date he has selected as his Notice to Proceed date, unless the Notice to Proceed date is otherwise indicated in the Contract, in which case the Contractor shall begin work within 10 calendar days after the specific Notice to Proceed date indicated in the Contract.

Contract Time will commence on the date of the Notice to Proceed. The Letter of Contract Execution will identify the Chief Engineer's authorized representative, hereafter referred to as the Engineer, who is responsible for written directives and changes to the Contract. The Engineer will contact the Contractor after notice of award to arrange a pre-construction conference.

In the event the Contractor, for matters of his convenience, wishes to begin work earlier than 15 calendar days or later than 30 calendar days after the date of contract execution, he shall make such a request in writing to the Engineer within 10 calendar days of the date of contract execution or once a Notice to Proceed Date has been established, if he wishes to begin work more than 10 calendar days after his selected Notice to Proceed date or the Notice to Proceed Date indicated in the Contract, he shall make such a request to the Engineer in writing no later than 5 calendar days after the Notice to Proceed date. If this requested start date is acceptable to the Department, the Contractor will be notified in writing; however, the Contract fixed completion date will not be adjusted but will remain binding. The Contractor's request to adjust the start date for the work on the Contract will not be considered as a basis for claim that the time resulting from the Contractor's adjusted start date, if accepted by the Engineer, is insufficient to accomplish the work nor shall it relieve the Contractor of his responsibility to perform the work in accordance with the scope of work and requirements of the Contract. In no case shall work begin before the Department executes the Contract or prior to the Notice to Proceed date unless otherwise permitted by the Contract or authorized by the Engineer. The Contractor shall notify the Engineer at least 24 hours prior to the date on which he will begin the work.

**Section 105.02—Pre-Construction Conference** of the Specifications is amended to replace the first paragraph with the following:

After notification of award and prior to the Notice to Proceed date the Contractor shall attend a pre-construction conference scheduled by the Engineer to discuss the Contractor's planned operations for prosecuting and completing the work within the time limit of the Contract. At the pre-construction conference the Engineer and the Contractor will identify in writing the authorities and responsibilities of project personnel for each party. The pre-construction conference may be held simultaneously with the scheduling conference when the Engineer so indicates this in advance to the Contractor. When these are simultaneously held, the Contractor shall come prepared to discuss preparation and submittal details of the progress schedule in accordance with the requirements of the Contract.

**Section 105.10(c)(1)—Steel Structures** of the Specifications is replaced with the following:

Working drawings for steel structures, including metal handrails, shall consist of shop detail, erection, and other working drawings showing details, dimensions, sizes of units, and other information necessary for the fabrication and erection of metal work.

**Section 105.14—Maintenance During Construction** of the Specifications is amended to add the following:

The Contractor shall provide at least one person on the project site during all work operations who is currently verified either by the Department in Intermediate Work Zone Traffic Control, or by the American Traffic Safety Services Association (ATSSA) as a Traffic Control Supervisor (TCS). This person must have the verification card with them while on the project site. This person shall be responsible for the oversight of work zone traffic control within the project limits in compliance with the contract requirements involving the plans, specifications, the VWAPM, and the MUTCD. This person's duties shall include the supervision of the installation, adjustment (if necessary), inspection, maintenance and removal when no longer required of all traffic control devices on the project.

If none of the Contractor's on-site personnel responsible for the supervision of such work has the required verification with them or if they have an outdated verification card showing they are not currently verified either by the Department in Intermediate Work Zone Traffic Control, or by the American Traffic Safety Services Association (ATSSA) as a Traffic Control Supervisor (TCS) all work on the project will be suspended by the Engineer.

The Contractor shall provide at least one person on site who is, at a minimum, verified by the Department in Basic Work Zone Traffic Control for each construction and/or maintenance operation that involves installing, maintaining, or removing work zone traffic control devices. This person shall be responsible for the placement, maintenance and removal of work zone traffic control devices.

In the event none of the Contractor's on-site personnel of any construction/maintenance operation has, at a minimum, the required verification by the Department in Basic Work Zone Traffic Control, that construction/maintenance operation will be suspended by the Engineer until that operation is appropriately staffed in accordance with the requirements herein.

**Section 105.15(b) Mailboxes and Newspaper Boxes** of the Specifications is replaced with the following:

- (b) **Mailboxes and Newspaper Boxes:** When removal of existing mailboxes and newspaper boxes is made necessary by construction operations, the Contractor shall place them in temporary locations so that access to them will not be impaired. Prior to final acceptance, boxes shall be placed in their permanent locations as designated by the Engineer and left in as good condition as when found. Boxes or their supports that are damaged through negligence on the part of the Contractor shall be replaced at his expense. The cost of removing and resetting existing boxes shall be included in other pay items of the Contract. New mailboxes designated in the plans shall be paid for in accordance with the provisions of Section 521 of the Specifications.

## **SECTION 107—LEGAL RESPONSIBILITIES**

**Section 107.13—Labor and Wages** of the Specifications is amended to add the following:

- (c) **Job Service Offices:** In advance of the Contract starting date, the Contactor may contact the Job Service Office of the Virginia Employment Commission at the nearest location to secure referral of available qualified workers in all occupational categories. The closest office may be obtained by accessing the VEC website at <http://www.vec.virginia.gov/vec-local-offices>.

**Section 107.14(f) Training** of the Specifications is amended to replace 5 and 6 with the following:

5. If the Contract provides a pay item for trainees, training shall be in accordance with the requirements of Section 518 of the Specifications.

**Section 107.16(a) Erosion and Siltation** of the Specifications is amended to replace the fourth paragraph with the following:

For projects that disturb 10,000 square feet or greater of land or 2,500 square feet or greater in Tidewater, Virginia, the Contractor shall have within the limits of the project during land disturbance activities, an employee certified by the Department in Erosion and Sediment control who shall inspect erosion and siltation control devices and measures for proper installation and operation and promptly report their findings to the Inspector. Inspections shall include all areas of the site disturbed by construction activity and all off site support facilities covered by the project's Stormwater Pollution Prevention Plan. Inspections shall be conducted at least once every 14 calendar days and within 48 hours following any runoff producing storm event (Note: If an inspection is conducted as a result of a storm event, another inspection is not required for 14 calendar days following provided there are no more runoff producing storm events during the that period). For those areas that have been temporarily stabilized or runoff is unlikely to occur due to winter conditions (e.g., the site is covered with snow or ice or frozen ground exists), inspections shall be conducted at least once a month. Those definable areas where final stabilization has been achieved will not require further inspections provided such areas have been identified in the project's Stormwater Pollution Prevention Plan. Failure of the Contractor to maintain a certified employee within the limits of the project will result in the Engineer suspending work related to any land disturbing activity until such time as a certified employee is present on the project. Failure on the part of the Contractor to maintain appropriate erosion and siltation control devices in a functioning condition may result in the Engineer notifying the Contractor in writing of specific deficiencies. Deficiencies shall be corrected immediately. If the Contractor fails to correct or take appropriate actions to correct the specified deficiencies within 24 hours after receipt of such notification, the Department may do one or more of the following: require the Contractor to suspend work in other areas and concentrate efforts towards correcting the specified deficiencies, withhold payment of monthly progress estimates, or proceed to correct the specified deficiencies and deduct the entire cost of such work from monies due the Contractor. Failure on the part of the Contractor to maintain a Department certified erosion and sediment control employee within the project limits when land disturbance activities are being performed will result in the Engineer suspending work related to any land disturbance activity until such time as the Contractor is in compliance with this requirement.

**Section 107.16(e) Storm Water Pollution Prevention Plan** of the Specifications is replaced with the following:

- (e) **Storm Water Pollution Prevention Plan and Virginia Stormwater Management Program General Permit for the Discharge of Stormwater from Construction Activities**

A Stormwater Pollution Prevention Plan (c) identifies potential sources of pollutants which may reasonably be expected to affect the stormwater discharges from the construction site and any off site support areas and describes and ensures implementation of practices which will be used to reduce pollutants in such discharges.

The SWPPP is comprised of, but not limited to, the Erosion and Sediment Control (ESC) Plan, the Stormwater Management (SWM) Plan and related Specifications and Standards contained within

all contract documents and shall be required for all land-disturbing activities that disturb 10,000 square feet or greater, or 2,500 square feet or greater in Tidewater, Virginia.

Land-disturbing activities that disturb one acre or greater, or 2,500 square feet or greater in an area designated as a Chesapeake Bay Preservation Area, require coverage under the Department of Conservation and Recreation's Virginia Stormwater Management Program (VSMP) General Permit for the Discharge of Stormwater from Construction Activities (hereafter referred to as the VSMP Construction Permit). Where applicable, the Department will apply for and retain coverage under the VSMP Construction Permit for those land disturbing activities for which it has contractual control.

The required contents of a SWPPP for those land disturbance activities requiring coverage under the VSMP Construction Permit are found in Section II D of the General Permit section of the VSMP Regulations (4VAC50-60-1170). While a SWPPP is an important component of the VSMP Construction Permit, it is only one of the many requirements that must be addressed in order to be in full compliance with the conditions of the permit.

The Contractor and all other persons that oversee or perform activities covered by the VSMP Construction Permit shall be responsible for reading, understanding, and complying with all of the terms, conditions and requirements of the permit and the project's SWPPP including, but not limited to, the following:

1. Project Implementation Responsibilities

The Contractor shall be responsible for the installation, maintenance, inspection, and, on a daily basis, ensuring the functionality of all erosion and sediment control measures and all other stormwater and pollutant runoff control measures identified within or referenced within the SWPPP, plans, Specifications, permits, and other contract documents.

The Contractor shall take all reasonable steps to prevent or minimize any stormwater or non-stormwater discharge that will have a reasonable likelihood of adversely affecting human health or public and/or private properties.

2. Certification Requirements

In addition to satisfying the personnel certification requirements contained herein, the Contractor shall certify his activities by completing, signing, and submitting Form C-45 VDOT SWPPP Contractor and Subcontractor Certification Statement to the Engineer at least 7 days prior to commencing any project related land-disturbing activities, both on-site and off-site.

3. SWPPP Requirements for Support Facilities

Where not included in the plans, the Contractor shall develop erosion and sediment control plan(s) and stormwater pollution prevention plan(s) for submission and acceptance by the Engineer prior to usage of any on-site or off-site support facilities including but not limited to, borrow and disposal areas, construction and waste material storage areas, equipment and vehicle storage and fueling areas, storage areas for fertilizers or chemicals, sanitary waste facilities and any other areas that may generate a stormwater or non-stormwater discharge directly related to the construction process. Such plans shall document the location and description of potential pollutant sources from these areas and shall include a description of the controls to reduce, prevent and control pollutants from these sources including spill prevention and response. The Contractor shall submit such plans and documentation as specified herein to the Engineer and, upon review and approval, they shall immediately become a component of the project's SWPPP and VSMP Construction Permit (where applicable) and shall be subject to all conditions and requirements of the VSMP Construction Permit (where applicable) and all other contract documents.

4. Reporting Procedures



a. Inspection Requirements

The Contractor shall be responsible for conducting inspections in accordance with the requirements herein. The Contractor shall document such inspections by completion of Form C-107 (a) and (b), Construction Runoff Control Inspection Form and Continuation Sheet, in strict accordance with the directions contained within the form.

b. Unauthorized Discharge Requirements

The Contractor shall not discharge into state waters sewage, industrial wastes, other wastes or any noxious or deleterious substances nor shall otherwise alter the physical, chemical, or biological properties of such waters that render such waters detrimental for or to domestic use, industrial consumption, recreational or other public uses.

(1) Notification of non-compliant discharges

The Contractor shall immediately notify the Engineer upon the discovery of or potential of any unauthorized, unusual, extraordinary, or non-compliant discharge from the land disturbing activity. Where immediate notification is not possible, such notification shall be not later than 24 hours after said discovery.

(2) Detailed report requirements for non-compliant discharges

The Contractor shall submit to the Engineer within 5 days of the discovery of any actual or potential non-compliant discharge a written report describing details of the discharge to include its volume, location, cause, and any apparent or potential effects on private and/or public properties and state waters or endangerment to public health, as well as steps being taken to eliminate the discharge. A completed Form C-107 (a) and (b) shall be included in such reports.

5. Changes, Deficiencies and Revisions

a. Changes and Deficiencies

The Contractor shall report to the Engineer when any planned physical alterations or additions are made to the land disturbing activity or deficiencies in the project plans or contract documents are discovered that could significantly change the nature or increase the quantity of the pollutants discharged from the land disturbing activity to surface waters.

b. Revisions to the SWPPP

Where site conditions, construction sequencing or scheduling necessitates revisions or modifications to the erosion and sediment control plan or any other component of the SWPPP for the land disturbing activity, such revisions or modifications shall be approved by the Engineer and shall be documented by the Contractor on a designated plan set (Record Set).

Such plans shall be maintained on the project site or at a location convenient to the project site where no on site facilities are available and shall be available for review upon request during normal business working hours.

**Section 107.21—Size and Weight Limitations** of the Specifications is amended to add the following:

- (d) **Construction Loading of Structures** - In the construction, reconstruction, widening, or repair of bridge, culvert, retaining wall and other similar type structures including approaches, the Contractor shall consider construction loads during the planning and prosecution of the work. If the loading capacity of these type structure(s) is not shown in the contract documents, the Contractor is

responsible for contacting the office of the appropriate district bridge engineer to obtain the loading capacity information. Construction loads include but are not limited to the weight of cranes, trucks, other heavy construction or material delivery equipment, as well as the delivery or storage of materials placed on or adjacent to the structure or parts thereof during the various stages (phases) of the work in accordance with the Contractor's proposed work plan. The Contractor shall consider the effect(s) of construction loads on the loading capacity of these type structure(s) in his sequencing of the work and operations, including phase construction. At the Engineer's request the Contractor shall be prepared to discuss or review his proposed operations with the Engineer with regard to construction loads to demonstrate he has taken such into consideration in the planning and execution of the work.

## **SECTION 108—PROSECUTION AND PROGRESS OF WORK**

**Section 108.01—Prosecution of Work** of the Specifications is amended to replace the first paragraph with the following:

The Contractor shall begin work on the Contract within 10 calendar days after the date selected by the Contractor as his Notice to Proceed date or within 10 calendar days after the specific Notice to Proceed date indicated in the Contract, unless otherwise altered or amended by specific language in the Contract or as permitted by the provisions of Section 105.01 or Section 108.02 of the Specifications.

**Section 108.02(b) Holidays** of the Specifications is amended to include the following:

In addition to the Sunday or Holiday work limitations, mobile, short duration, short-term stationary, or intermediate-term stationary temporary traffic control zone (as defined in the *Virginia Work Area Protection Manual*) lane closures on mainline lanes, shoulders, or ramps shall not be performed during the following Holiday time periods without the written permission of the Engineer. Additionally, a long-term stationary temporary traffic control zone (as defined in the *Virginia Work Area Protection Manual*) shall not be initially put in place, adjusted, or removed during the following Holiday time periods without the written permission of the Engineer:

- **January 1:** From Noon on the preceding day until Noon on the following day, except as indicated below.
- **Easter:** As indicated below.
- **Memorial Day:** As indicated below.
- **July 4:** From Noon on the preceding day until Noon on the following day, except as indicated below.
- **Labor Day:** As indicated below.
- **Thanksgiving Day:** From Noon on the Wednesday preceding Thanksgiving Day until Noon on the Monday following Thanksgiving Day.
- **Christmas Day:** From Noon on the preceding day until Noon on the following day, except as indicated below.

**If the Holiday occurs on a Friday or Saturday:** From Noon on the preceding Thursday to Noon on the following Monday.

**If the Holiday occurs on a Sunday or Monday:** From Noon on the preceding Friday to Noon on the following Tuesday.

**Section 108.04—Determination and Extension of Contract Time Limit** of the Specifications is amended to replace the second paragraph with the following:

With a fixed date contract when contract execution is not within 60 calendar days after the opening of bids, or when the Contractor is unable to commence work because of any failure of the Department, or when the Contractor is delayed because of the fault of the Department, the Contractor will be given an extension of time based on the number of days delayed beyond the 60 calendar days. No time extension will be allowed for a delay in the date of contract execution when the delay is the fault of the Contractor.

**Section 108.04(a) Fixed Date** of the Specifications is amended to add the following after the first paragraph as currently written:

If the Contract identifies a contract-specific Notice to Proceed date and the Contract is not executed by that date, the Contractor will receive an extension of time equal to the number of days between the contract-specific Notice to Proceed date and the eventual date of contract execution. If the Notice to Proceed date is selected by the Contractor and after prior approval the Engineer directs the Contractor not to begin work on that date, the Contractor will receive an extension of time equal to the number of days between the Contractor's selected Notice to Proceed date and the eventual date the Engineer informs the Contractor that he may commence the work.

**Section 108.07—Default of Contract** of the Specifications is amended to replace condition (a) with the following:

- (a) fails to begin the work under the Contract within 10 calendar days after the Contractor's selected Notice to Proceed date, or within 10 calendar days after a contract specific Notice to Proceed date indicated in the Contract, except as otherwise permitted by specific contract language or the provisions of Section 105.01 or Section 108.02 of the Specifications.

## **SECTION 109—MEASUREMENT AND PAYMENT**

**Section 109.01(a)—Measurement by Weight** is amended to replace the first paragraph and second paragraph including subparagraphs 1-4 with the following:

- (a) **Measurement by Weight:** Materials that are measured or proportioned by weight shall be weighted on accurate scales as specified in this Section. When material is paid for on a tonnage basis, personnel performing the weighing shall be certified by the Department and shall be bonded to the Commonwealth of Virginia in the amount of \$10,000 for the faithful observance and performance of the duties of the weighperson required herein. The bond shall be executed on a form having the exact wording as the Weighpersons Surety Bond Form furnished by the Department and shall be submitted to the Department prior to the furnishing of the tonnage material.

The Contractor shall have the weighperson perform the following:

1. Furnish a signed weigh ticket for each load that shows the date, load number, plant name, size and type of material, project number, schedule or purchase order number, and the weights specified herein.
2. Maintain sufficient documentation so that the accumulative tonnage and distribution of each lot of material, by contract, can be readily identified.
3. Submit by the end of the next working day a summary of the number of loads and total weights for each type of material by contract.

**Section 109.01(a)—Measurement by Weight** is also amended to delete the third paragraph.

**Section 109.01(d)4 Asphalt** is amended to replace the "formula...used in computing the volume of asphalt at temperatures other than 60 degrees F" with the following:

$$V' = V \times [1 - K(T - 60)]$$

**Section 109.08(b)—Payment to Sub-Contractors** of the Specifications is amended to replace the second paragraph with the following:

Payment to Sub-Contractors shall be in accordance with the provisions of §2.2-4354 of the *Highway Laws of Virginia*:

The Contractor shall take one of the following two actions within 7 days after receipt of payment from the Department for the subcontractor's portion of the work as shown on the monthly progress estimate:

1. Pay the subcontractor for the proportionate share of the total payment received from the agency attributable to the work performed by the subcontractor under that contract; or
2. Notify the Department and subcontractor, in writing, of his intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment.

The Contractor shall be obligated to pay interest in the amount 1 (one) percent per month on all amounts owed by the Contractor to the subcontractor that remain unpaid after 7 days following receipt by the contractor of payment from the Department for work performed by the subcontractor, except amounts withheld as allowed in section 2. The Contractor shall include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower tier subcontractor.

**Section 109.09—Payment For Material On Hand** of the Specifications is replaced with the following:

When requested in writing by the Contractor, payment allowances may be made for material secured for use on the project. Such material payments will be for only those actual quantities identified in the contract, approved work orders, or otherwise **authorized and documented by the Engineer** as required to complete the project and shall be in accordance with the following terms and conditions:

- (a) **Structural Steel or Reinforcing Steel:** An allowance of 100 percent of the cost to the Contractor for structural steel **or reinforcing steel** materials secured for fabrication not to exceed 60 percent of the contract price may be made when such material is delivered to the fabricator and has been adequately identified for exclusive use on the project. **The provisions of this section for steel reinforcement will only apply where the quantity of steel reinforcement is identified as a separate and distinct bid item for payment.** An allowance of 100 percent of the cost to the Contractor for superstructure units and reinforcing steel, not to exceed 90 percent of the contract price, may be made when fabrication is complete. Prior to the granting of such allowances, the materials and fabricated units shall have been tested or certified and found acceptable to the Department and shall have been stored in accordance with the requirements specified herein. Allowances will be based on invoices, bills, or the estimated value as approved by the Engineer and will be subject to the retainage requirements of Section 109.08 of the Specifications. **For the purposes of this section fabrication is defined as any manufacturing process such as bending, forming, welding, cutting or coating with paint or anti-corrosive materials which alters, converts, or changes raw material for its use in the permanent finished work.**
- (b) **Other Materials:** For aggregate, pipe, guardrail, signs and sign assemblies, and other nonperishable material, an allowance of 100 percent of the cost to the Contractor for materials, not to exceed 90 percent of the contract price, may be made when such material is delivered **to the project** and stockpiled or stored in accordance with the requirements specified herein. Prior to the granting of such allowances, the material shall have been tested and found acceptable to the Department. Allowances will be based on invoices, bills, or the estimated value of the material as approved by the Engineer and will be subject to the retainage provisions of Section 109.08 of the Specifications.

- (c) **Excluded Items:** No allowance will be made for fuels, form lumber, falsework, temporary structures, or other work that will not become an integral part of the finished construction. **Additionally, no allowance will be made for perishable material such as cement, seed, plants, or fertilizer.**
- (d) **Storage:** Material for which payment allowance is requested shall be stored in an approved manner in areas where damage is not likely to occur. If any of the stored materials are lost or become damaged, the Contractor shall repair or replace them **at no additional cost to the Department. Repair or replacement of such material will not be considered the basis for any extension of contract time.** If payment allowance has been made prior to such damage or loss, the amount so allowed or a proportionate part thereof will be deducted from the next progress estimate payment and withheld until satisfactory repairs or replacement has been made.

When it is determined to be impractical to store materials within the limits of the project, the Engineer may approve storage on private property or, for structural units and reinforcing steel, on the manufacturer's or fabricator's yard. Requests for payment allowance for such **stored** material shall be accompanied by a release from the owner or tenant of such property or yard agreeing to permit the removal of the materials from the property without cost to the Commonwealth.

- (e) **Materials Inventory:** If the Contractor requests a payment allowance for properly stored material, he shall submit a certified and itemized inventory statement to the Engineer no earlier than five days and no later than two days prior to the progress estimate date. The statement shall be submitted on forms furnished by the Department and shall be accompanied by **supplier's or manufacturer's** invoices or other documents that will verify the material's cost. Following the initial submission, the Contractor shall submit to the Engineer a monthly-certified update of the itemized inventory statement within the same time frame. The updated inventory statement shall show additional materials received and stored with invoices or other documents and shall list materials removed from storage since the last certified inventory statement, with appropriate cost data reflecting the change in the inventory. If the Contractor fails to submit the monthly-certified update within the specified time frame, the Engineer will deduct the full amount of the previous statement from the progress estimate.

At the conclusion of the project, the cost of material remaining in storage for which payment allowance has been made will be deducted from the progress estimate.

## **—DIVISION II— MATERIALS—**

——STANDARD 200 SERIES SPCNs (SPECIAL PROVISION COPIED NOTES)——

**——SELECT USE 200 SERIES SPECIAL PROVISION COPIED NOTES (SPCNs)——**

**NONE**



**——STANDARD 200 SERIES SPs (SPECIAL PROVISIONS)——**

**NONE**

**——SELECT USE 200 SERIES SPs (SPECIAL PROVISIONS)——**

**NONE**

**——STANDARD 200 SERIES SSs (SUPPLEMENTAL SPECIFICATIONS)——**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 214—HYDRAULIC CEMENT**

**SECTION 214—HYDRAULIC CEMENT** of the Specifications is amended as follows:

**Section 214.02(b) Portland cements** is amended by replacing 1. with the following:

1. The  $\text{SO}_3$  content as specified in AASHTO M85 will be permitted, provided supporting data specified in AASHTO M85 are submitted to the Department for review and acceptance prior to use of the material.

**Section 214.02(b) Portland cements** is amended by deleting 3., 4., and 5.

**Section 214.02—Detail Requirements** is amended by adding the following:

- (c) **Expansive hydraulic cement** shall conform to the requirements of ASTM C 845 Type K.

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**SUPPLEMENTAL SECTION 215—HYDRAULIC CEMENT CONCRETE ADMIXTURES**

**SECTION 215—HYDRAULIC CEMENT CONCRETE ADMIXTURES** of the Specifications is amended as follows:

**Section 215.02(g) Fly ash** is replaced with the following:

- (g) **Pozzolan** shall conform to Section 241 of the Specifications.

**Section 215.02—Materials** is amended by adding the following:

- (k) **Metakaolin** shall conform to the requirements of AASHTO M321

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**SUPPLEMENTAL SECTION 217—HYDRAULIC CEMENT CONCRETE**

**SECTION 217—HYDRAULIC CEMENT CONCRETE** of the Specifications is amended as follows:

**Section 217.02(a) Cementitious Materials** is replaced with the following:

**Cementitious materials** shall be a blend of mineral admixtures and Portland cement or a blended cement. In overlay concretes, expansive hydraulic cement is permitted in lieu of Portland cement. Portland cement (Types I, II, III) blended cements (Type IP, Type IS) or expansive cement (Type K) shall comply with Section 214 of the Specifications. Flyash, ground granulated iron blast-furnace slag (GGBFS), silica fume or metakaolin shall conform to Section 215 of the Specifications. As a portion of the cementitious material, Table 1 lists the minimum percents of specific pozzolans required by mass of the cementitious material depending on the alkali content of the cement. Any other mineral admixture or any other amount or combination of mineral admixtures may be used if approved by the Engineer. As a portion of the cementitious material, the fly ash content shall not exceed 30 percent for Class F, the ground granulated blast-furnace slag content shall not exceed 50 percent and the silica fume content shall not exceed 10 percent unless approved by the Engineer. Class C Flyash or other pozzolans may be used provided the contractor demonstrates that the percent usage of Class C Flyash or other pozzolans have a maximum expansion of 0.15% according to ASTM C227 at 56 days using borosilicate glass as aggregate. Blended cements require no further pozzolan additions to meet minimum pozzolan content to compensate for the alkali-silica reaction.

Up to 7 percent silica fume may be added to all combinations of cementitious materials to reduce early permeability without approval by the Engineer. Other silica fume additions must be approved by the Engineer.

Table 1 – Minimum percent pozzolan required by mass of cementitious material as a portion of the total cementitious materials and are based upon the alkali content of the cement.

	Total Alkalies of Cement is less than or equal to 0.75%	Total Alkalies of Cement is greater than 0.75% and less than or equal to 1.0%
Class F Flyash	20%	25%
GGBF Slag	40%	50%
Silica Fume	7%	10%
Metakaolin	7%	10%

**TABLE II-17 Requirements for Hydraulic Cement Concrete** is replaced with the following:

**TABLE II-17**  
**Requirements for Hydraulic Cement Concrete**

Class of Concrete	Design Min. Laboratory Compressive Strength at 28 Days (f'c) (psi)	Aggregate Size No. <sup>6</sup>	Design Max. Laboratory Permeability at 28 Days (Coulombs) <sup>5</sup>	Design Max. Laboratory Permeability at 28 days - Over tidal water (Coulombs) <sup>5</sup>	Nominal Max. Aggregate Size (in)	Min. Grade Aggregate	Min. Cementitious Content (lb./cu yd)	Max. Water /Cementitious Mat. (lb. Water/lb. Cement)	Consistency (in of slump)	Air Content (percent) <sup>1</sup>
A5 Prestressed and other special designs <sup>2</sup>	5,000 or as specified on the plans	57 or 68	1,500	1,500	1	A	635	0.40	0-4	4 1/2 ± 1 1/2
A4 General	4,000	56 or 57	2,000	2,500	1	A	635	0.45	2-4	6 1/2 ± 1 1/2
A4 Post & rails	4,000	7,8 or 78	2,000	2,500	0.5	A	635	0.45	2-5	7 ± 2
A3 General	3,000	56 or 57	2,000	3,500	1	A	588	0.49	1-5	6 ± 2
A3a Paving	3,000	56 or 57	3,500	3,500	1	A	564	0.49	0-3	6 ± 2
A3b Paving	3,000	357	3,500	3,500	2	A	N.A	0.49	0-3	6 ± 2
B2 Massive or lightly Reinforced	2,200	57	N.A.	N.A.	1	B	494	0.58	0-4	4 ± 2
C1 Massive Unreinforced	1,500	57	N.A.	N.A.	1	B	423	0.71	0-3	4 ± 2
T3 Tremie seal	3,000	56 or 57	N.A.	N.A.	1	A	635	0.49	3-6	4 ± 2
Latex hydraulic cement concrete overlay <sup>3</sup>	3,500	7,8 or 78	1,500	1,500	0.5	A	658	0.40	4-6	5 ± 2
Silica fume, silica fume /Class F Fly Ash or silica fume/slag concrete overlay <sup>4</sup>	5000	7,8 or 78	1,500	1,500	0.5	A	658	0.40	4-7	6 ± 2
Class F Fly Ash or slag overlay	4000	7,8 or 78	1,500	1,500	0.5	A	658	0.40	4-7	6 ± 2

(See next page for notes on TABLE II-17).

(See next page for notes on TABLE II-17).

----- (TABLE II-17 Notes) -----

- <sup>1</sup> When a high-range water reducer is used, the upper limit for entrained air may be increased by 1% and the slump shall not exceed 7 inches.
- <sup>2</sup> When Class A5 concrete is used as the finishing bridge deck riding surface, or when it is to be covered with asphalt concrete with or without waterproofing, the air content shall be  $5 \frac{1}{2} \pm 1 \frac{1}{2}$  percent.
- <sup>3</sup> The latex modifier content shall be 3.5 gallons per bag of cement. Slump shall be measured approximately 4.5 minutes after discharge from the mixer.
- <sup>4</sup> Silica fume with a minimum of 7% by weight of cementitious material; silica fume with a range of 2.5-5 % shall be combined with Class F Fly Ash in range of 15-20% and minimum cement of 77.5% by weight of cementitious material; silica fume with a range of 2.5-5% shall be combined with Ground Granulated Blast Furnace Slag in the range of 30-35% and a minimum cement of 67.5% by weight of cementitious material.
- <sup>5</sup> The permeability testing does not apply to small bridges identified on the bridge plans and to concrete structures and incidental concrete as described in Sections 219, 232, 302, 415, 502, 504, 506 and 519. Curing and testing of test cylinders for permeability will be in accordance with VTM 112.
- <sup>6</sup> The contractor may use different aggregate sizes or a combination of sizes to increase the coarse aggregate content of the concrete as approved by the Engineer. The maximum size of the coarse aggregate shall not exceed 2.5 inches.

**Note:** With the approval of the Engineer, the Contractor may substitute a higher class of concrete for that specified at the Contractor's expense.

**Section 217.02(b) Formulated latex modifier** is amended by adding the following:

For latex-modified concrete, Type I, Type II, Type III or Type K, cement shall be used without mineral admixtures.

**Section 217.04(a)4. Admixtures** is replaced with the following:

4. **Admixtures** shall be dispensed and used according to the manufacturer's recommendations. They shall be added within a limit of accuracy of 3 percent, by means of an approved, graduated, transparent, measuring device before they are introduced into the mixer. If more than one admixture is to be used, they shall be released in sequence rather than in the same instant. Once established, the sequence of dispensing admixtures shall not be altered. However, when the amount of admixture required to give the specified results deviates appreciably from the manufacturer's recommended dosage, use of the material shall be discontinued.

**Section 217.05—Equipment** is amended to replace the first paragraph with the following:

Equipment and tools necessary for handling materials and performing all parts of the work will be approved by the Engineer and must be in accordance with one of the following procedures:

1. having a current National Ready Mix Concrete Association Plant and Truck Certification, or
2. having a Department approved self-certification program in-place prior to the production of concrete for the Department.

Failure to comply with one or the other of these procedures will result in the concrete production being unapproved and work will not be allowed to proceed.

**Section 217.05(a) Batching Equipment** is amended to replace the second paragraph with the following:



Scales used for weighing aggregates and cement shall be approved and sealed in accordance with the requirements of Section 109 of the Specifications.

**Section 217.05—Equipment** is amended to add the following:

- (d) **High Performance Volumetric Mixers (HPVMs):** The Contractor may produce the specified class of hydraulic cement concrete in Table II-17 in accordance with Section 217.02(a) of the Specifications provided that the manufacturer's equipment meets the tolerance requirements of Section 217.04(a) of the Specifications and has a stamped plate from the Volumetric Mixers Manufacturers Bureau stating that the equipment conforms to the requirements in ASTM C685.

The hydraulic cement concrete shall be mixed at the point of delivery by a combination of materials transport and mixer unit conforming to the following:

1. The unit shall be equipped with calibrated proportioning devices for each ingredient added to the concrete mix. The unit shall be equipped with a working recording meter that is visible at all times and furnishes a ticket printout with the calibrated measurement of the mix being produced. If at anytime the mixer fails to discharge a uniform mix, production of concrete shall halt until any problems are corrected.
2. Each unit shall have a metal plate(s) attached in a prominent place by the manufacturer on which the following are plainly marked: the gross volume of the transportation unit in terms of mixed concrete, the discharge speed and the mass calibrated constant of the machine in terms of volume.
3. HPVMs shall be calibrated by a Department approved testing agency in accordance with the manufacturer's recommendations at an interval of every 6 months or a maximum production of 2500 cubic yards, whichever occurs first prior to use on the project. The yield shall be maintained within a tolerance of  $\pm 1$  percent and verified using a minimum 2 cubic feet container every 500 cubic yards or a minimum once per week.
4. The three cubic feet initially discharged from the truck shall be discarded and not used for concrete placement. Acceptance of the specified class of concrete shall comply with Section 217.08 of the Specifications except that the sample secured for acceptance testing will be taken after four cubic feet is discharged from the delivery vehicle. During discharge, the consistency as determined by ASTM C143 on representative samples taken from the mixer discharge at random intervals shall not vary more than 1 inch. Acceptance tests shall be performed on each load. If test data demonstrates that consistency of concrete properties are being achieved, the Engineer may reduce testing requirements.
5. The HPVM shall be operated by a person who is a certified operator by the HPVM manufacturer. Any equipment adjustments made during the on-site production of concrete shall be done under the direct on-site supervision of the producer's VDOT Concrete Plant and Field Certified Technician.

Each load of HPVM produced concrete shall be accompanied by a Form TL-28 signed by the producer's VDOT Certified Concrete Plant Technician or a designated company representative working under the direct on-site supervision of the producer's VDOT Concrete Plant and Field Certified Technician. The form shall be delivered to the Inspector at the site of the work. Loads that do not carry such information or do not arrive in satisfactory condition shall not be used.

**Section 217.07—Proportioning Concrete Mixtures** is amended to replace the first paragraph with the following:

The Contractor is responsible for having a Certified Concrete Plant Technician available during batching operations, and a Certified Concrete Field Technician shall be present during placing operations.

**Section 217.07—Proportioning Concrete Mixtures** is amended to delete the third paragraph beginning with “**A Certified Concrete Batcher**”.

**Section 217.08—Acceptance** is replaced with the following:

- (a) **Air Consistency Tests:** Air and consistency tests will be performed by the Department prior to discharge of concrete into the forms to ensure that specification requirements are consistently being complied with for each class of concrete. The sample secured for the tests shall be taken after at least two cubic feet of concrete has been discharged from the delivery vehicle. The two cubic feet discharged is not to be used as part of the test sample. Any deviation from sampling and testing procedures must be approved by the Engineer. The Contractor shall provide a receptacle conforming to the requirements of ASTM C31, Section 5.9, for the Department's use in obtaining the sample. If either determination yields a result that is outside of the allowable range for air content or consistence, the following procedure will be used:
1. The Engineer will immediately perform a recheck determination. If the results confirm the original test results, the load will be rejected.
  2. The Contractor's representative will be immediately informed of the test results.
  3. The Contractor's representative shall notify the producer of the test results through a pre-established means of communication.

The Engineer may perform any additional tests deemed necessary and reject all remaining material that fails the tests.

Entrained air content will be determined in accordance with the requirements of ASTM C231 or ASTM C173. Acceptance or rejection will be based on the results obtained from these tests.

In general, a mixture that contains the minimum amount of water consistent with the required workability shall be used. Consistency will be determined in accordance with the requirements of ASTM C143. Adding cement to loads previously rejected for excessive water content or consistency will not be permitted.

- (b) **Strength Tests:** The 28-day compressive strengths ( $f'_c$ ) specified in Table II-17 are the strengths used in the design calculations. The Engineer will verify design strengths by tests made during the progress of the work in accordance with the requirements of ASTM C31 (Standard Practice for Making and Curing Concrete Test Specimens in the Field) and ASTM C39 (Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens) with the exception that the fresh concrete sample used for testing is to be secured after at least two cubic feet has been discharged from the delivery vehicle. The two cubic feet discharged is not to be used as part of the test sample. Any deviation from sampling and testing procedures must be pre-approved by the Engineer. The use of ASTM C42 (Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete) will be at the Engineer's discretion. If the 28-day design compressive strength ( $f'_c$ ) test results do not conform to the strength requirements specified in Table II-17, immediate steps shall be taken to adjust the mixture design. In addition, the Engineer may require removal of or corrective measures be applied to any concrete that does not meet the requirements of Table II-17. If the concrete cylinder strength,  $f'_{cyl}$ , is less than the specified compressive strength found in Table II-17, the criteria in Table II-17A shall apply:

**Table II – 17A Price Reduction or Action Taken due to  $f'_{cyl}$  not meeting the specification value  $f'_c$  listed in Table II-17**

Condition	Concrete is a Pay Item	Concrete is <u>Not</u> a Pay Item
$f'_{cyl}$ is greater than or equal to 98% $f'_c$	A	A
$f'_{cyl}$ is greater than or equal to 90% $f'_c$ and less than 98% $f'_c$	B	C
$f'_{cyl}$ is less than 90% $f'_c$	D	D
$f'_{cyl}$ is not available due to the Contractor's inappropriate handling and storage of specimens in accordance with ASTM C31	D	D

$f'_c$  is the 28-day design compressive strength found in Table II-17.

$f'_{cyl}$  is the actual average tested strength of the standard-cured concrete cylinder made and tested in accordance with ASTM C31 and ASTM C39.

A = full payment

B = pay reduction =  $[(f'_c - f'_{cyl})/f'_c] \times \text{contract unit price for concrete per yd}^3 \times \text{number of yds}^3 \text{ the concrete represents}]$  or \$500, whichever is greater.

C = pay reduction =  $[(f'_c - f'_{cyl})/f'_c] \times 5 \times \text{Contractor's invoice price for concrete per yd}^3 \times \text{number of yds}^3 \text{ the concrete represents}]$  or \$500, whichever is greater.

D = The Contractor shall submit an investigative plan stamped by a Virginia-licensed Professional Engineer outlining how the Contractor shall demonstrate that the in-place concrete meets the structural strength requirements of the design. For barriers, parapets, railings, etc., no reduction in concrete strength below  $0.9f'_c$  shall be allowed. For all other applications, the investigative plan must be approved by the Department's Engineer prior to the execution of the investigation. All costs associated with this investigation shall be borne by the Contractor. After the investigation is completed, a report shall be submitted to the Engineer showing the results of the analysis, testing and conclusions of the Virginia-licensed Professional Engineer and recommendations for action proposed by the Contractor to be taken with the concrete that did not meet the strength requirements. The Department retains all rights to determine if the action proposed with regard to the concrete in question is acceptable. If the Department concurs with the proposed action and the concrete meets the structural strength requirements of the design and remains in place, any price reduction will be taken by Method B if the concrete is a pay item or Method C if the concrete is not a pay item. If the concrete does not meet the structural requirements of the design, the concrete shall be removed and replaced at no cost to the Department. The maximum penalty assessed for low strength concrete left in place will be 10% as specified in Table II-17A not including the cost of the investigation and any corrective measures taken by the Contractor.

No calculated penalty less than \$500 will be assessed. The Contractor shall have the right to remove and replace concrete failing to meet specifications at the Contractor's cost.

Before concrete is placed, the Contractor shall provide a storage chamber at his expense for temporary storage of the Department's concrete cylinders. The contractor shall be responsible for maintaining the chamber such that the concrete test cylinders are kept in a continuously moist condition and within a temperature range of 60 degrees F to 80 degrees F. The chamber shall be equipped with a continuously recording thermometer accurate to  $\pm 2$  degrees F for the duration of concrete cylinder curing. The chamber shall be located in an area where the test cylinders will not be subject to vibration and shall be of sufficient size or number to store, without crowding or wedging, the required number of test cylinders as determined by the Contractor based on his plan of operations. Location of the chamber is subject to approval by the Engineer.

When use of high-early-strength hydraulic cement concrete is required, it shall conform to the requirements specified in Table II-17 except that the 28-day strength shall be obtained in 7 days. Up to 800 pounds per cubic yard of Type I, Type II or Type III cement may be used to produce high-early-strength concrete.

- (c) **Concrete Temperature** shall be measured in accordance with the requirements of ASTM C1064.

- (d) **Quality Assurance** for Low Permeability Concrete:

**General:**

At least two trial batches, using job materials, with permissible combination of cementitious materials shall be prepared, and test specimens shall be cast by the Contractor and tested by the Department for permeability and strength at least a month before the field application. The permeability samples shall be cylindrical specimens with a 4-inch diameter and at least 4-inches in length. Cylinders will be tested at 28 days in accordance with VTM 112. The test value shall be the result of the average values of tests on two specimens from each batch. Permeability values obtained from trial batches shall be 500 coulombs below the maximum values specified in Table II-17 of the Specifications to be acceptable.

**Acceptance Tests:**

For each set of cylinders made for compressive strength tests, two additional cylinders shall be made for the permeability test. The Department will be responsible for making and testing all permeability test specimens.

If the average permeability test result is equal to or less than the value for the specified class of concrete in Table II-17, then full payment will be made for the lot the average permeability test result represents. However, if the average permeability test result exceeds the coulomb value in Table II-17, payment for that lot of concrete shall be reduced by 0.005 percent for each coulomb above the coulomb value in Table II-17 multiplied by the bid item cost of the concrete times the number of cubic yards or cubic meters of concrete in the lot. The reduction in price will not exceed 5 percent of the bid price of the concrete. Any concrete with a coulomb value that exceeds the maximum required in Table II-17 by 1000 coulomb will be rejected. However, bridge deck concrete with any coulomb value exceeding the maximum required by over 1000 coulomb may be accepted by the Engineer at 95 percent of the bid price if the concrete in question has the required strength and meets other specification requirements, and the Contractor applies, at his own expense, an approved epoxy concrete overlay to the top of the entire deck. In such case deck grooving will not be required. Epoxy overlays over latex overlays will not be permitted. The adjustment to the roadway grade shall be made as required by the Engineer at the Contractor's expense.

Similarly, concrete in abutments and pier caps with coulomb value exceeding the maximum required in Table II-17, by more than 1000 coulomb may be accepted at 95 percent of the bid price if it has the required strength and meets other specification requirements, and the Contractor applies at his own expense, one coat of Type EP-3B and one coat of EP-3T in conformance with the requirements of Section 243.02 of the Specifications, on top of the pier cap or abutment seat.

**Section 217.09(b) Ready Mixed Concrete** is amended to replace the second paragraph with the following:

Each load of transit or shrink-mixed concrete shall be accompanied by Form TL-28 signed by the VDOT Certified Concrete Field Technician or a designated company representative working under the direction of the VDOT Certified Concrete Field Technician. The form shall be delivered to the Inspector at the site of the work. Loads that do not carry such information or that do not arrive in satisfactory condition shall not be used.

**Section 217.09(b) Ready-Mixed Concrete** is amended to replace the fourth paragraph and the table with the following:

Each batch of concrete shall be delivered to the site of work and discharged within 90 minutes of the time the cement is introduced into the mixture unless approved otherwise by the Engineer.

**Section 217.09(b)1. Transit mixing** is amended to replace the first paragraph with the following:

1. **Transit mixing:** Concrete shall be mixed in a truck mixer. Mixing shall begin immediately after all ingredients are in the mixer and shall continue for at least 70 revolutions of the drum or blades at the rate of at least 14 but no more than 20 revolutions per minute.

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 226—STRUCTURAL STEEL**

**SECTION 226—STRUCTURAL STEEL** of the Specifications is amended as follows:

**Section 226.02(b) Other Structural Steel** is replaced with the following:

- (b) **Other Structural Steel:** Unless otherwise specified, steel for other structural members except H-piles shall conform to the requirements of ASTM A36. H-piles shall conform to the requirements of ASTM A572 or ASTM A992. One copy of the mill analysis shall accompany steel piles shipped to the project site. Three copies of the mill analysis for structural steel members shall be submitted to the Engineer.

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**SUPPLEMENTAL SECTION 238—ELECTRICAL AND SIGNAL COMPONENTS**

**SECTION 238 ELECTRICAL AND SIGNAL COMPONENTS** of the Specifications is amended as follows:

**Section 238.02(f) Electrical and Signal Junction Boxes** is replaced with following:

(f) **Electrical and Signal Junction Boxes:**

Boxes, frames and covers shall be water resistant. Covers shall be secured with stainless steel bolts and fasteners. Covers shall be flush with surface of the junction box and not protrude above the top of the junction box flange.

Junction box bolt attachment holes shall be drilled through to prevent debris from collecting in the threaded bolt holes.

Junction boxes shall be tested and certified by an independent testing laboratory as meeting the requirements indicated herein for approval for use. Independent testing laboratory shall be approved by VDOT Materials Division prior to testing. The Contractor shall furnish the Engineer documentation of such test results.

Testing reports shall provide complete test results for the type of design testing indicated for the respective type of junction box.

**Junction Boxes for deliberate traffic in the roadway applications:**

- Concrete shall conform to the requirements of Section 217 of the Specifications and shall be designed to meet the provisions of AASHTO's *Standard Specifications for Highway Bridges* for HS20 loading. Concrete shall have a design minimum compressive strength of 4000 psi.
- Gray Iron frame and covers shall conform to the requirements of Section 224 of the Specifications.

**Junction Boxes for off roadway applications:**

- Shall conform to the requirements of ANSI/SCTE 77 2007 and tier 15 loading. Boxes shall be open bottom.
- Shall be Polymer concrete with straight sides or Polymer concrete with flared or straight fiberglass sides.
- Other materials may be submitted for the sidewalls provided they conform to the requirements of ANSI/SCTE 77 2007 and tier 15 loading.

**Junction Boxes frames and covers for bridge structures encasements shall be one of the following types:**

1. Steel castings conforming to the requirements of Section 224 of the Specifications, galvanized inside and out.
2. Welded sheet steel having a thickness of at least 3/16 inch or 7 gage, galvanized inside and out.

3. Polymer concrete with fiberglass sides or all polymer concrete.

**Section 238.02(h)6.f. Light Emitting Diode (LED) traffic signal head sections** is amended to replace the third paragraph with the following:

LED arrow traffic signal modules shall conform to the requirements of the *ITE Vehicle Traffic Control Signal Heads – Light Emitting Diode Vehicle Arrow Traffic* issued April 3, 2006 (inclusive of any ITE documents that amend, revise and/or supersede it).

And to replace the seventh paragraph with the following:

The LED's shall be mounted and soldered to a printed circuit board. Modules shall be provided with an external in-line fuse or internal fusing of the 120 VAC (+) input. The fuse shall be rated in accordance with the LED module manufacturer. The LED signal module shall utilize the same mounting hardware used to secure the incandescent lens and gasket assembly and shall only require a screwdriver or standard installation tool to complete the mounting.



VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS**SUPPLEMENTAL SECTION 245—GEOSYNTHETICS**

**SECTION 245—GEOSYNTHETICS** of the Specifications is amended as follows:

**Section 245.03(a) Geotextile Fabric for Use in Silt Fences, Silt Barriers, or Filter Barriers** is replaced with the following:

- (a) **Geotextile Fabric for Use in Silt Fences, Silt Barriers, or Filter Barriers:** Geotextile shall be a woven fabric with monofilament yarns only and function as a vertical; permeable interceptor designed to remove suspended soil from overland water flow. Fabric shall filter and retain soil particles from sediment-laden water to prevent eroding soil from being transported off the construction site by water runoff. Fabric shall contain ultraviolet inhibitors and stabilizers to provide at least 6 months of expected, usable construction life at a temperature of 0 degrees F to 125 degrees F. The tensile strength of the material after 6 months of installation shall be at least 50 percent of the initial strength.

Physical Property	Test Method	Requirements
Filtering efficiency	VTM-51	Min. 75%
Flow rate	VTM-51	Min. 0.2 gal/ft <sup>2</sup> /min

In addition to these requirements, the geotextile shall comply with the requirements of AASHTO M288 for temporary silt fence property requirements, Table 7, for grab strength and ultraviolet stability.

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**SUPPLEMENTAL SECTION 247—REFLECTIVE SHEETING**

**SECTION 247—REFLECTIVE SHEETING** of the Specifications is completely replaced with the following:

**247.01—Description**

This specification covers reflective sheeting used on traffic control devices to provide a retroreflective surface or message. The color of the reflective sheeting shall be as specified in the Contract Documents. Reflective sheeting shall be certified in accordance with the requirements of Section 106.06 of the Specifications.

**247.02—Detail Requirements**

Reflective sheeting shall be selected from the Department's Approved Products list. Reflective sheeting products are included on the Approved Products List only after the Department determines conformance to the Specifications and the manufacturer has supplied written information indicating conformance to the warranty requirements of Section 247.03 of the Specifications where required. Determination of conformance will include, but not be limited to, the evaluation of test data from AASHTO's National Transportation Product Evaluation Program (NTPEP) or other Department-approved facilities except as noted. When color test data (Chromaticity and Luminance Factor - Y%) provided by NTPEP or other Department-approved facilities are evaluated, color must have been maintained within the color specification limits for the full duration of the outdoor weathering test. The sheeting and any applied coatings such as inks, overlay films, other coatings, shall be weather resistant in accordance with ASTM D4956 after being tested by AASHTO, NTPEP or other Department approved facilities except as noted.

- (a) **Reflective sheeting used on permanent signs (except those addressed in Section b), on object markers, nose of guardrails, permanent impact attenuators (except sand barrels), standard road edge delineators, special road edge delineators, barrier delineators, guardrail delineators, interstate road edge delineators, chevron panels, bridge end panel signs (VW-13), and railroad advance warning signs (including any supplemental plaques) vertical panels (Group 2 channelizing devices), traffic gates, Automatic Flagger Assistance Device (AFAD) gate arms, and the "STOP" side of sign paddles (hand signaling device)** shall conform to the requirements of ASTM D4956 for a Type IX material and, except for the "STOP" side of sign paddles, shall be warranted in accordance with Section 247.03 Sheeting Warranty Class I of the Specifications.

Color shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 1 and 1A (non-fluorescent colors) and Tables 3 and 3A (fluorescent colors). In Table 1A, the values for daytime luminance factor (Y%) shall be based on the colors for a Type IV, VII, and VIII sheeting.

The minimum maintained coefficient of retroreflection of the sheeting after 3 years on the test deck shall conform to the requirements of ASTM D4956.

1. **Reflective sheeting used on the following signs** shall be Fluorescent Yellow-Green conforming to the requirements of ASTM D4956 for a Type IX material and shall be warranted in accordance with Section 247.03, Sheeting Warranty Class I of the Specifications.
  - **Bicycle Crossing sign (W11-1) including supplemental plaques**
  - **Pedestrian Crossing sign (W11-2) including supplemental plaques**

- **Playground sign (W15-1) including supplemental plaques**
- **DEAF CHILD AREA sign including supplemental plaques**
- **WATCH FOR CHILDREN sign including supplemental plaques**
- **School Signing consisting of the following:**
  - School Crossing sign (S1-1)
  - School Bus Stop Ahead sign (S3-1)
  - SCHOOL plaque (S4-3)
  - School Portion of the School Speed Limit sign (S5-1)
  - Supplemental plaques used with these signs

Color shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 3 and 3A.

The minimum maintained coefficient of retroreflection of the sheeting after 3 years on the test deck shall conform to the requirements of ASTM D4956.

- (b) **Reflective sheeting used on permanent recreational and cultural interest area guidance signs, and for the hand symbol/DON'T WALK and numerals on permanent educational pedestrian signal signs (R10-3b thru R10-3e)** shall conform to the requirements of ASTM D4956 for a Type III material and shall be warranted in accordance with Section 247.03, Sheeting Warranty Class I of the Specifications.

Color shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 1 and 1A.

The minimum maintained coefficient of retroreflection of the sheeting after 3 years on the test deck shall conform to the requirements of ASTM D4956.

- (c) **Reflective sheeting used to delineate the trailer's back frame of Portable Changeable Message Signs (PCMS), Automatic Flagger Assistance Device (AFAD) gate arm, arrow boards and portable lights** shall conform to the requirements of 49 CFR 571.108 for a Grade DOT-C2 truck conspicuity marking. References to ASTM specifications therein shall be interpreted to mean the latest version of the specification at the time of advertisement regardless of the date indicated in the reference.

Color shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 1 and 1A.

This reflective sheeting is not required to be tested by NTPEP.

- (d) **Reflective sheeting used on Type III barricades** shall conform to the following:

Minimum Coefficient of Retroreflection $R_A$ ( $R_A$ =Candelas per foot-candle per square foot)			
Observation Angle (°)	Entrance Angle (°)	White	Orange
0.2	−4	400	200
0.2	+30	200	80
0.5	−4	300	100
0.5	+30	100	40
1.0	−4	50	25
1.0	+30	15	10

Color and Luminance Factor (Y%) shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 1 and 1A, for a Type IV Sheeting.

Impact Resistance shall conform to the requirements of ASTM D4956.

The minimum maintained coefficient of retroreflection of the sheeting after one year on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection values specified.

- (e) **Reflective sheeting used on orange construction and maintenance activity signs, barrier vertical panels installed on concrete traffic barrier service, rear panel of truck-mounted attenuators, temporary impact attenuators (except temporary sand barrels), and the "SLOW" side of sign paddles** shall conform to the requirements of ASTM D4956 for a Type IX, Fluorescent Orange material (with the following retroreflection exception):

**Minimum Coefficient of Retroreflection  $R_A$**   
( $R_A$  =Candelas per foot-candle per square foot)

Observation Angle (°)	Entrance Angle (°)	Fluorescent Orange
0.2	−4	140
0.2	+30	90
0.2	+40	24
0.5	−4	90
0.5	+30	50
0.5	+40	15
1.0	−4	10
1.0	+30	5
1.0	+40	3

Color shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 3 and 3A.

The minimum maintained coefficient of retroreflection of the sheeting after one year on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection values specified.

- (f) **Reflective sheeting used on tubular delineators, drums and temporary sand barrels** shall conform to the following:

1. **Reflective sheeting used on tubular delineators and drums** shall conform requirements of ASTM D4956 including supplementary requirement S2 for a Type III reboundable material. Color shall conform to the requirements of Tables 1 and 1A of the USDOT specification as contained in the Appendix to 23 CFR, Part 655, Subpart F except the minimum daytime luminance factor (Y%) for white shall be 25 when used on tubular delineators and drums. The following supplementary table shall apply for tubular delineators and drums:

**Minimum Coefficient of Retroreflection  $R_A$**   
(Candelas per foot-candle per square foot)  
(High Intensity)

Observation Angle (°)	Entrance Angle (°)	White	Orange
0.2	+50	75	25
0.5	+50	35	10

Reflective sheeting used on tubular delineators is not required to be tested by NTPEP.

2. **Reflective sheeting used on temporary sand barrels** shall be a fluorescent orange prismatic lens reboundable sheeting conforming to the following:

Color shall conform to the requirements of Tables 3 and 3A of the USDOT specification as contained in the Appendix to 23 CFR, Part 655, Subpart F.

Minimum Coefficient of Retroreflection $R_A$ (Candelas per foot-candle per square foot) (High Intensity)		
Observation Angle (°)	Entrance Angle (°)	Fluorescent Orange
0.2	-4	200
0.2	+30	120
0.2	+50	40
0.5	-4	80
0.5	+30	50
0.5	+50	30

Minimum maintained coefficient of retroreflection of the sheeting after one year on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection values indicated above.

Reflective sheeting shall conform to the supplementary requirement S2 of ASTM D4956.

**Please note:** Beginning July 1, 2012 reflective sheeting used on Drums, Temporary Sand Barrels and Tubular delineators for all projects shall conform to the requirements of ASTM D4956 including supplementary requirement S2 for a Type III reboundable material with the following retroreflection exception as shown in the chart below:

Minimum Coefficient of Retroreflection $R_A$ ( $R_A$ =Candelas per foot-candle per square foot) (Prismatic Lens)			
Observation Angle (°)	Entrance Angle (°)	White	Fluorescent Orange
0.2	-4	400	175
0.2	+30	200	100
0.2	+40	135	60
0.2	+45	120	40
0.5	-4	150	70
0.5	+30	50	30
0.5	+40	45	25
0.5	+45	40	20

Color shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 1 and 1A (non-fluorescent colors) and Table 3 and 3A (fluorescent colors).

The minimum maintained coefficient of retroreflection of the sheeting after one year on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection specified.

- (g) **Reflective sheeting used on Permanent Sand Barrels and on Cones** shall conform to the requirements of ASTM D4956 including supplementary requirement S2 for a Type III reboundable material. The following supplementary table shall also apply for cones:

**Minimum Coefficient of Retroreflection  $R_A$**   
**( $R_A$  =Candelas per foot-candle per square foot)**  
**(High Intensity)**

Observation Angle (°)	Entrance Angle (°)	White
0.2	+50	60
0.5	+50	35

Color shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 1 and 1A.

The maintained coefficient of retroreflection of the sheeting after one year on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection specified for permanent sand barrel sheeting.

Reflective sheeting for cones is not required to be tested by NTPEP.

- (h) **Reflective sheeting used on Retroreflective Rollup Signs** shall conform to the following:

**Minimum Coefficient of Retroreflection  $R_A$**   
**( $R_A$  =Candelas per foot-candle per square foot)**  
**(Prismatic Lens)**

Observation Angle (°)	Entrance Angle (°)	White	Fluorescent Orange	Fluorescent Pink
0.2	-4	500	200	200
0.2	+30	200	80	100
0.5	-4	225	90	100
0.5	+30	85	35	35
1.0	-4	20	10	10
1.0	+30	15	8	10
1.5	-4	5	3	2
1.5	+30	4	1.5	2

Color shall conform to the requirements of 23 CFR, Part 655, Subpart F, Appendix Tables 1 and 1A for white, and Appendix Tables 3 and 3A for fluorescent colors.

Reflective sheeting for retroreflective rollup signs is not required to be tested by NTPEP.

### 247.03—Warranty Requirements

The reflective or retroreflective sheeting manufacturer shall provide the following warranty to the Department for the respective types of sheeting furnished as specified herein:

**Class I Warranty:** 10-year warranty with 7 years being 100 percent full replacement covering all material and labor costs associated with fabrication and installation of the sign or device and the final 3 years being 100 percent sheeting replacement cost.

The minimum values of retroreflectivity maintained during the warranty period shall be the same as those required for the maintained coefficient of retroreflection values as indicated herein, or where not indicated, shall be in accordance with those specified in ASTM D4956.

Loss of colorfastness is considered to have occurred if the color of the sheeting is not within the color specification limits in 23 CFR, Part 655, Subpart F, Appendix during the full duration of the warranty period.

Warranty period shall begin on the date of fabrication and shall be documented as follows:

For warranty requirements, each permanent sign shall be labeled on the reverse in a location not to be obscured by sign supports or backing hardware, showing 1.) Month and year the sign was fabricated, marked via punch-out numerals, 2.) Sheeting Manufacturer's name or logo and product designation or number, and 3.) Sign fabricator's name or logo. Labels shall be made of a self adhesive, permanent weather resistant material and shall be a minimum 4" by 4" in size. Label may be made from permanent sign material provided the finished label meets all other aspects required for warranty documentation.

Where the information required for the label is not furnished by punched-out numerals, it shall be supplied by permanent means, such as sign ink, capable of resisting weathering so as to be legible for the full duration of the warranty period.

Prior to applying the label, the area shall be thoroughly cleaned to ensure proper adhesion.

## **—DIVISION III— ROADWAY CONSTRUCTION—**



——STANDARD 300 SERIES SPCNs (SPECIAL PROVISION COPIED NOTES)——

(c303kg0-0708) **AGGREGATE MATERIAL** shall be the size specified conforming to Section 203 of the Specifications. The aggregate shall be placed at locations shown on the plans or as directed by the Engineer. Aggregate material will be measured in units of tons for the size specified in accordance with Section 109 of the Specifications. Payment will be made at the contract unit price per ton, which bid price shall be full compensation for furnishing, placing, and shaping and compaction, if required.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Aggregate Material (Size)	Ton

5-23-95c, Reissued 7-2008c (SPCN)

**——SELECT USE 300 SERIES SPECIAL PROVISION COPIED NOTES (SPCNs)——**

**NONE**

**——STANDARD 300 SERIES SPs (SPECIAL PROVISIONS)——**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**RESTORING EXISTING PAVEMENT**

January 14, 2008c

**I. DESCRIPTION**

This work shall consist of restoring existing pavement, removed for installation or repair of utilities such as, but not limited to pipe culverts, conduits, water and sanitary sewer items.

**II. MATERIALS**

Asphalt Concrete shall conform to the requirements of Section 211 of the Specifications.

Aggregate Subbase material shall conform to the requirements of Section 208 of the Specifications.

Asphalt Material shall conform to the requirements of Section 210 of the Specifications.

Fine Aggregate shall conform to the requirements of Section 202 of the Specifications.

Coarse Aggregate for surface treatment shall conform to the requirements of Section 203 of the Specifications.

Hydraulic Cement Concrete Class A3 shall conform to the requirements of Section 217 of the Specifications.

Steel Reinforcement shall conform to the requirements of Section 223 of the Specifications.

**III. PROCEDURES**

Pavement restoration shall be in accordance with this Provision and plan notes.

Backfill shall be in accordance with Section 302.03(a)2.g. of the Specifications.

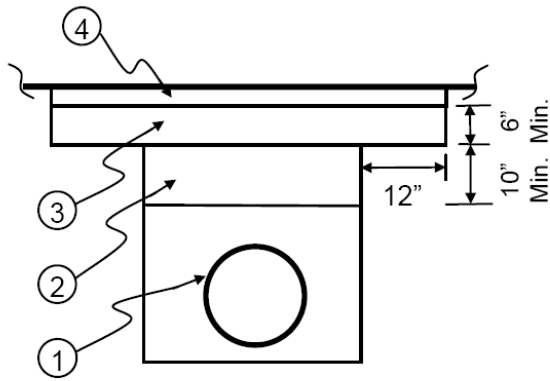
Asphalt Concrete shall be placed and compacted in accordance with Section 315 of the Specifications.

Surface Treatment shall be placed in accordance with the Asphalt Surface Treatment special provision and the attached drawing.

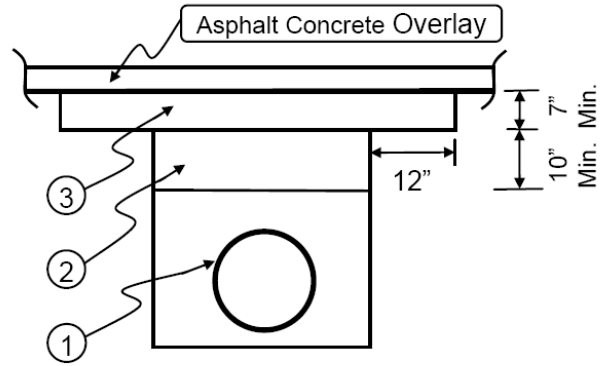
Concrete Pavement shall be placed in accordance with Section 509 of the Specifications and this special provision. Open trench in Hydraulic Cement Concrete Pavement should be located at existing transverse joints if at all possible. If concrete pavement is removed within two feet of an existing transverse joint, pavement removal shall be extended two feet beyond the joint. Reinforcing steel and dowels shall be installed in accordance with Road and Bridge Standard PR-2. Joint replacement shall be in accordance with Road and Bridge Standard PR-2.

**IV. MEASUREMENT AND PAYMENT**

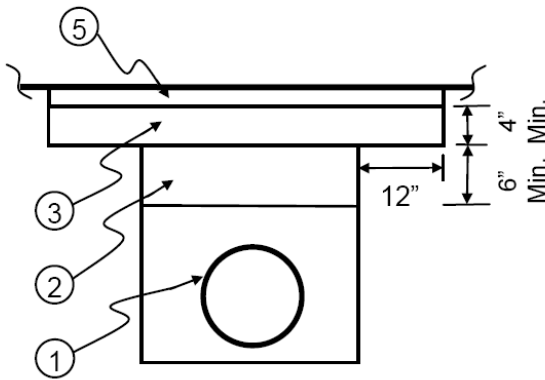
Restoring Existing Pavement unless otherwise specified will not be measured for separate payment, the cost thereof shall be included in the price bid for the utility to which it pertains in accordance with Section 302.04, Section 520.06 or Section 705.04 of the Specifications, as appropriate. However, widths and depths in excess of the attached drawing that are authorized or directed by the Engineer will be paid for in accordance with Section 109.05 of the Specifications.



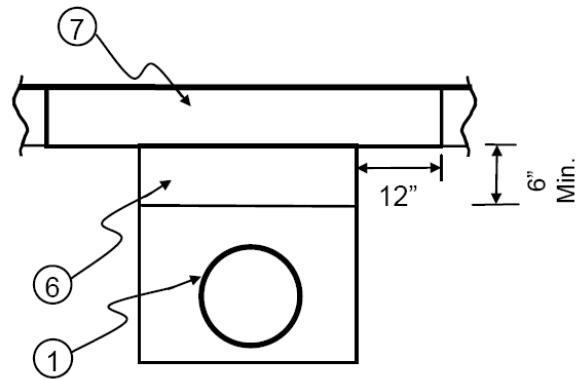
PAVEMENT STRUCTURE  
Asphalt Conc. Base and Surface



PAVEMENT STRUCTURE  
Scheduled for Asphalt Conc. Overlay



PAVEMENT STRUCTURE  
Aggregate Base and Surface Treatment



PAVEMENT STRUCTURE  
Hydraulic Cement Concrete

#### NOTES:

The following methods for restoring existing pavement shall be adhered to unless otherwise specified on the plans.

1. Pipe culverts, conduits and utility items shall be installed in accordance with the applicable Road and Bridge Standards and Specifications.
2. Subbase - Aggregate material Type 1, Size 21A or 21B.
3. Asphalt Concrete Type BM-25.0
4. Surface - Asphalt Concrete Type SM-9.5D @ 165 lbs. per sq. yd.
5. Surface - Blotted Seal Coat Type C: The initial seal and final seal shall be CRS-2, CMA-2 or CMS-2h liquid asphalt material @ 0.17 gal./sq. yd. with 15 lbs. of No. 8P stone/sq. yd. each. The blot seal shall be CRS-2, CMS-2 or CMS-2h liquid asphalt material @ 0.15 gal./sq. yd. with 10 lbs. of fine aggregate grade B sand per sq. yd.
6. Subbase - Aggregate material Type 1 Size 21B
7. Surface - Hydraulic Cement Concrete, high early strength, matching existing structure for depth and surface texture.

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**FLOWABLE BACKFILL**

March 11, 2010

**I. DESCRIPTION**

This work shall consist of furnishing and placing flowable backfill for use as backfill material in pipe installations or in other uses at locations as designated on the plans, and as backfill material for plugging designated abandoned pipes and culverts.

**II. MATERIALS**

Hydraulic Cement shall conform to the requirements of Section 214 of the Specifications.

Fly Ash shall [conform to the requirements of Section 241.02\(a\) of the Specifications](#).

Water shall conform to the requirements of Section 216 of the Specifications [with the exception that wash water as described in Section 216.02 may comprise the total mix water](#).

Aggregates shall conform to the requirements of Sections 202 and 203 of the Specifications with a combined gradation as determined by the Contractor.

Admixtures shall conform to the requirements of Section 215 of the Specifications.

Granulated Iron Blast Furnace Slag shall conform to the requirements of Section 215 of the Specifications.

**III. MIX DESIGN**

Mix design for flowable backfill shall be provided by the Contractor. When used as backfill material in pipe installations or in other uses at locations as designated on the plans flowable backfill shall have a design compressive strength of 30 to 200 pounds per square inch. When used as backfill material for plugging designated abandoned pipes and culverts flowable backfill shall have a design compressive strength of 30 to 1200 pounds per square inch. The design compressive strength requirement shall be at 28 days when tested in accordance with ASTM D 4832. Mix design shall result in a fluid product having no less than an 8-inch slump at time of placement. The Contractor shall submit a mix design for approval supported by laboratory test data verifying compliance with 28 day compressive strength requirements. Mix design shall be approved by the Engineer prior to placement.

**IV. PROCEDURES**

Mixing and transporting shall be in accordance with Section 217 of the Specifications or by other methods approved by the Engineer.

Temperature of flowable backfill shall be at least 50 degrees F at time of placement. Material shall be protected from freezing for 24 hours after placement.

When used as backfill for pipe installation and floatation or misalignment occurs, correct alignment of the pipe shall be assured by means of straps, soil anchors or other approved means of restraint.

When used to fill the voids in abandoned pipes and culverts, they shall be plugged and backfilled in accordance with the plan details or as directed by the Engineer. The plugs shall be in accordance with the plan details. The backfill material shall be flowable backfill placed into the abandoned pipe or culvert without voids. [When deemed necessary by the Engineer, the Contractor shall submit a](#)

plan of operations for acceptance showing how the flowable backfill will be placed without voids. The opening for culvert backfill installation shall be sealed with masonry or Class A-3 concrete at completion of backfilling.

**V. MEASUREMENT AND PAYMENT**

**Flowable Backfill** will be measured and paid for in cubic yards complete-in-place. When used as backfill material in pipe installations or in other uses at locations as designated on the plans this price shall be full compensation for furnishing and placing flowable backfill, securing the pipe alignment, and for all materials, labor, tools, equipment and incidentals necessary to complete the work. When used as backfill material for plugging designated abandoned pipes and culverts the price bid shall include furnishing and placing of backfill material and furnishing and installing plugs.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Flowable Backfill	Cubic yard



**——SELECT USE 300 SERIES SPs (SPECIAL PROVISIONS)——**

**NONE**

**——STANDARD 300 SERIES SSs (SUPPLEMENTAL SPECIFICATIONS)——**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 303—EARTHWORK**

**SECTION 303—EARTHWORK** of the Specifications is amended as follows:

**Section 303.02—Materials** is amended to add the following:

- (e) **Seed** shall conform to Section 244.02(c) of the Specifications.

**Section 303.03—Erosion and Siltation Control** is amended to replace the second paragraph the following:

Erosion and siltation control devices and measures shall be maintained in a functional condition at all times. Temporary and permanent erosion and siltation control measures shall be inspected in accordance with the requirements of Section 107.16(a) of the Specifications. Deficiencies shall be immediately corrected. The Contractor shall make a daily review of the location of silt fences and filter barriers to ensure that they are properly located for effectiveness. Where deficiencies exist, corrections shall be made immediately as approved or directed by the Engineer.

**Section 303.03(b) Soil Stabilization** is amended to replace the last paragraph with the following:

Areas that cannot be seeded because of seasonal or adverse weather conditions shall be mulched to provide some protection against erosion to the soil surface. Mulch shall be applied in accordance with the requirements of Section 603.03(e) of the Specifications and paid for in accordance with the requirements of Section 603.04 of the Specifications. Organic mulch shall be used, and the area then seeded as soon as weather or seasonal conditions permit in accordance with the requirements of Section 603.03 of the Specifications. Organic mulch includes: straw or hay, fiber mulch, wood cellulose, or wood chips conforming to the requirements of Section 244.02(g) of the Specifications.

**Section 303.03(f) Sediment Traps and Sediment Basins** is replaced with the following:

- (f) **Sediment Traps and Sediment Basins:** Sediment traps shall be utilized where the storm water runoff from disturbed areas is comprised of flow from a total drainage area of less than 3 acres. Sediment basins shall be utilized where the storm water runoff from disturbed areas is comprised of flow from a total drainage area of 3 or more acres. Once a sediment trap or basin is constructed, the dam and all outfall areas shall be stabilized immediately.

**Section 303.03—Erosion and Siltation Control** is amended to add the following:

- (h) **Temporary Diversion Dike:** This work shall consist of constructing temporary diversion dikes at the locations designated on the plans and in accordance with the plan details and the Specifications, stabilizing with seed and mulch, maintaining, removing when no longer required, and restoration of the area.

Temporary diversion dikes shall be installed as a first step in land-disturbing activities and shall be functional prior to upslope land disturbance. The dike shall be constructed to prevent failure in accordance with Section 303.04 of the Specifications. Seeding and mulch shall be applied to the dike in accordance with Section 603 of the Specifications immediately following its construction. The dikes should be located to minimize damages by construction operations and traffic.

The Contractor shall inspect the temporary diversion dikes after every storm and repairs made to the dike, flow channel, outlet, or sediment trapping facility, as necessary. Once every two weeks, whether a storm event has occurred or not, the measure shall be inspected and repairs made if needed. Damages to the dikes caused by construction traffic or other activity must be repaired before the end of the working day.

**Section 303.06(e)—Erosion Control Items** is amended to replace “4. **Check dams**” with the following:

4. **Check dams** will be paid for at the contract unit price per each. This price shall include furnishing, excavating, constructing, maintaining, repositioning as may be required during construction and removing the check dams if, or when, no longer required.

Synthetic check dams may be substituted for Type II Rock Check dams (Standard EC-4) at no additional cost to the Department.

**Section 303.06(e)—Erosion Control Items** is amended to replace “6. **Geotextile fabric**” with the following:

6. **Geotextile fabric** attached to brush barriers or existing fence or used for another function specified on the plans will be measured in square yards, complete-in-place, excluding laps, and will be paid for at the contract unit price per square yard. This price shall include trimming the brush barrier; furnishing, installing, maintaining, and removing the fabric; and dressing and stabilizing the area.

The brush barrier will not be measured for separate payment. The cost thereof shall be included in the price for clearing and grubbing.

**Section 303.06(e)—Erosion Control Items** is amended to replace “15. **Drop Inlet Silt Trap**” and its corresponding Pay Item and Pay Unit with the following:

**15. Inlet protection:**

- a. **Inlet Protection Type A** will be measured in units of each and will be paid for at the contract unit price per each location shown or specified. The price shall include furnishing and installing temporary filter barrier including posts and top rails, coarse aggregate and, if required, sediment forebay. This price shall also include maintenance and removal until no longer required. Inlet Protection Type A will be paid for only one time during the duration of the project.
- b. **Inlet Protection Type B** will be measured in units of each and will be paid for at the contract unit price per each location shown or specified. The price shall include furnishing and installing hardware mesh cloth, concrete blocks, wooden studs, coarse aggregate, and maintenance and removal until no longer required. Inlet Protection Type B will be paid for only one time during the duration of the project.
- c. **Inlet Protection Type C** will be measured and paid for in accordance with the individual pay items and pay units shown in the Standard Drawing for EC-6, Type C. The individual pay items for Inlet Protection Type C will be paid for only one time during the duration of the project for each location shown or specified

Payment will be made under:

Pay Item	Pay Unit
Inlet protection Type A	Each
Inlet protection Type B	Each

**Section 303.06(e)—Erosion Control Items** is amended to add the following:

18. **Temporary diversion dike** will be measured in linear feet, complete-in-place, and will be paid for at the contract unit price per linear foot. This price shall be full compensation for installing the diversion dike, stabilizing with seed and mulch, maintaining, removing when no longer required, and restoration of the area.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Temporary diversion dike	Linear foot

**—DIVISION IV— BRIDGES AND STRUCTURES—**

**None**

## **—DIVISION V– INCIDENTAL CONSTRUCTION—**

——STANDARD 500 SERIES SPCNs (SPECIAL PROVISION COPIED NOTES)——



(c512hg0-0708)

**CONTRACTOR PROPOSED ALTERNATIVE TRAFFIC CONTROL PLANS** - The Contractor may prepare his own Contractor Alternative Traffic Control Plan (CATCP) as an alternative to that shown in the Contract Documents. This alternative plan must be prepared in conformance with the requirements of AASHTO; the latest approved editions of the Manual of Uniform Traffic Control Devices (MUTCD) and the Virginia Work Area Protection Manual. The Contractor must provide, as part of this alternative plan, information and explanations consistent with, and to the same level of detail, as the project-specific Traffic Control plans in the Contract Documents prepared by VDOT or its consultants. The alternative plan must clearly demonstrate coordination with the Contractor's overall, comprehensive plan for prosecuting the work, through its various phases or stages of construction and sequencing. The plan must be supported by a detailed transportation network traffic operations analysis, consistent with the complexity of the project, using a methodology or computer software program approved by the Department. This analysis must satisfactorily demonstrate the operating conditions of the network, and particularly, the work zone given expected traffic volumes during the length of the construction schedule.

As a necessary and integral part of the plan, the Contractor shall be responsible for identifying all utilities and right of way that will be impacted by his proposed CATCP, to include but not be limited to: underground utility designations, securing any additional or supplemental permissions or permits required to construct the project and preparing all analyses, plans, summaries, specifications, special provisions, etc., necessary to secure approvals to construct the project according to his alternative plan. The analyses, plans, summaries, specifications, and special provisions shall be directly prepared by or prepared under the supervision of a Professional Engineer registered to practice civil engineering in the Commonwealth of Virginia who is trained and/or certified in traffic control analysis and design. All such documents shall be signed and sealed by the Professional Engineer.

The Department reserves the right to accept or reject any CATCP developed under the provisions of this specification. The Contractor must obtain the Engineer's written approval before beginning any work using a Contractor Alternative Traffic Control Plan for Maintenance of Traffic. The Engineer's written approval is required for all modifications to the accepted Contractor Alternative Traffic Control Plan. The Engineer will permit changes to the CATCP without proper documentation and authorization only in emergency situations where incident management is critical.

The Engineer's acceptance of the Contractor's Alternative Traffic Control Plan will not relieve the Contractor of his responsibility for all related project impacts, costs, delays, or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those detailed in the original Contract specifications, design plans, including the Department's temporary traffic control plans or other Contract Documents and which effect a change in project work different from that shown in the plans, joint project agreements, or other project construction schedules. No additional compensation or extension of time for contract completion will be considered in conjunction with the Contractor's decision to proceed with use of a Contractor Alternative Traffic Control Plan that is approved by the Engineer.

3-27-08, Reissued 7-2008 (SPCN)

**——SELECT USE 500 SERIES SPECIAL PROVISION COPIED NOTES (SPCNs)——**

**UNIFORMED FLAGGERS** - The Contractor shall utilize off-duty uniformed police officers for control of traffic through signalized intersections during periods when the control equipment is non-operational. It is expressly understood that the work under this pay item exceeds the requirements and duties typically associated with flagger service. Off duty police officers will not be required to have VDOT flagger certification to perform this work. Police assisted flagger service will be measured and paid for in hours of in duty service. This price will be full compensation for furnishing uniform officers and all associated costs.

Payment will be made under:

**Pay Item**

**Pay Unit**

Uniformed Flaggers

Hours

9-29-08a (SPCN)

**——STANDARD 500 SERIES SPs (SPECIAL PROVISIONS)——**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**CG-12 DETECTABLE WARNING SURFACE**

February 12, 2003ccc  
Reissued July 2008c

**I. DESCRIPTION**

This work shall consist of providing all labor, tools, equipment, and materials required to construct sidewalk with detectable warning surfaces in the location(s) specified on the plans or in the proposal. The Contractor shall perform the work according to the details shown on the plans or in this special provision, Section 504 of the Specifications, and as directed by the Engineer.

**II. MATERIALS**

Materials shall conform to the requirements of Section 504 of the Specifications except as follows:

In lieu of concrete, solid brick pavers, or concrete pavers, other permanent, durable materials suitable for heavy traffic outdoor areas approved by the Department may be used to construct the detectable warning areas where called for in the plans and other contract documents. Solid brick pavers and concrete paver units shall conform to the details and requirements shown in the plans. Other durable materials shall be in accordance with Department approved manufacturer's design and specification requirements.

There shall be a minimum of 70 percent contrast in light reflectance between the detectable warning area and adjoining surfaces. The detectable warning can optionally be "safety yellow". The material used to provide visual contrast shall be an integral part of the detectable warning surface. Both the truncated domes and the underlying surface must meet the contrast requirement. The contrast in percent shall be determined by:

$$\text{Contrast} = [ ( B1 - B2 ) / B1 ] \times 100$$

where B1=light reflectance value (LRV) of the lighter area and B2=light reflectance value (LRV) of the darker area. Note that in any application both white and black are never absolute; thus, B1 never equals 100 and B2 is always greater than 0.

When visual contrast other than "safety yellow" is used, provide verification of contrast. Verification of visual contrast is required.

**III. PROCEDURES**

Construct sidewalk ramp according to Section 504 of the Specifications except for detectable warning/truncated domes that shall be furnished or constructed in accordance with the details in this specification, the manufacturer's recommendations, the Special Design Drawing and the Plans.

**IV. MEASUREMENT AND PAYMENT**

**CG-12 Detectable Warning Surface** will be measured in square yards and paid for at the contract unit price per square yard, complete-in-place. This price shall be full compensation for furnishing and installing approved truncated dome finished materials including but not limited to concrete, brick or concrete pavers, other Department approved materials, integral visual contrast, dowels and all other labor, tools, equipment, materials and incidentals necessary to fully complete the work.

Payment will be made under:

**Pay Item**

**Pay Unit**

CG-12 Detectable Warning Surface

Square yard

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**WORK ZONE TRAFFIC CONTROL MANAGEMENT**

January 14, 2008

**I. GENERAL DESCRIPTION**

This work shall consist of providing work zone traffic control management in strict compliance with the contract, plans, specifications, the Virginia Work Area Protection Manual and the Manual on Uniform Traffic Control Devices (MUTCD), including supervision of personnel and the installation, inspection, and maintenance of all traffic control devices on the project.

**II. REQUIREMENTS**

The Contractor shall assign a traffic control supervisor (TCS) to provide work zone traffic control management for the project. If the Contractor assigns more than one TCS to provide work zone traffic control management, a weekly schedule identifying who will be in charge of providing work zone traffic control management on a daily basis shall be submitted to the VDOT Area Construction Engineer by the Contractor.

The TCS shall have a set of traffic control plans and a copy of the edition of the Virginia Work Area Protection Manual specified on the plan sheet or in the contract readily available at all times.

**A. Certification**

Prior to commencing work requiring work zone traffic control management, the Contractor shall submit to the Area Construction Engineer a valid copy of the Traffic Control Supervisor certificate (wallet size card) issued by the American Traffic Safety Services Association (ATSSA), or another similarly accredited agency or firm approved by the Department.

The Department will accept the certification by ATSSA or any approved agency or firm only if all of the following minimum requirements are met:

1. Successful completion of an Intermediate or Advanced work zone traffic control training course approved by the Department.
2. Passing a written examination given by the agency or firm on the approved work zone traffic control training course.
3. A minimum of two years full-time field experience in work zone traffic control. The experience may be verified by the Department at its discretion.

The TCS certification shall be renewed every four years by the TCS taking and passing a recertification test. The recertification test shall be taken through ATSSA or an agency or firm approved by the Department. Recertification shall be done in the fourth year prior to the expiration date.

**B. Duties**

The TCS's main responsibility shall be work zone traffic control management. The TCS may have other assigned duties on the project as approved in writing by the Area Construction Engineer. The following is a listing of the TCS's primary duties:

1. The TCS(s) shall personally provide work zone traffic control management and supervision services at the project site.

2. The TCS(s) shall coordinate the training of flagging and signing personnel.
3. The TCS(s) shall supervise the flagging and signing personnel.
4. The TCS(s) shall coordinate all work zone traffic control operations for the duration of the contract, including those of subcontractors, utility companies, and suppliers, to ensure that all work zone traffic control is in place and fully operational prior to the commencement of any work.

The Department recognizes that the Contractor does not have direct control over the work zone traffic control operations of the utility companies. The coordination provided by the TCS when dealing with utility companies is for the purpose of coordinating concurrent utility work zone traffic control with any other construction/maintenance work zone traffic control to avoid conflicts.

5. The TCS(s) shall perform daily reviews of work zone traffic control when work activities are underway and document in the work zone traffic control daily diary activities taking place and any deviation from the traffic control plan, length and timing and mitigation of excessive traffic queues, and instances or conflicts or problems with the work zone traffic control and corrective actions taken. In addition, the TCS(s) shall perform weekly reviews of the work zone traffic control and document in detail using Forms TE-97001 and 97002. Every other detailed weekly review shall be performed during nighttime hours or as directed by the Area Construction Engineer.

The TCS shall inspect traffic control devices in use for compliance with the ATSSA Quality Standards for Work Zone Traffic Control Devices, the Road and Bridge Specifications, and the Virginia Work Area Protection Manual. The TCS shall provide for the immediate repair, cleaning, or replacement of traffic control devices not functioning as required to ensure the safety of the motorists and construction personnel.

The traffic control devices shall be inspected by the TCS during working and nonworking hours on a schedule approved in writing by the Area Construction Engineer, but as a minimum at the beginning and end of each work day or night and once during non-working weekends and holidays, and daily on restricted days due to inclement weather or during any work shutdown.

Traffic control devices in use longer than fourteen (14) days shall be inspected by the TCS at least once every other week during nighttime periods.

6. The TCS(s) shall prepare and submit statements concerning road closures, delays, and other project activities to the District Public Affairs office as required.
7. The TCS(s) shall be responsible for notifying the VDOT project Maintenance of Traffic (MOT) Coordinator or designee, of all accidents related to the project traffic control. The time and date of notification shall be documented in the daily diary.
8. The TCS(s) assigned to the project shall attend the preconstruction conference and any other meeting which involves traffic control.
9. The TCS(s) shall be responsible for the maintenance, cleanliness, and replacement of traffic control devices of the existing traffic control plan during working and non-working hours.

#### **C. Documentation - Traffic Control Diary**

The TCS shall maintain a project work zone traffic control diary in a bound book. The Contractor shall provide a sufficient number of diaries for his or her use.



The TCS shall keep the work zone traffic control diary current on a daily basis, and shall sign each daily entry. Entries shall be made in ink in a format approved by the Area Construction Engineer, and there shall be no erasures or white-outs. Incorrect entries shall be struck out and then replaced with the correct entry. Photographs may be used to supplement the written text.

The work zone traffic control diary shall, at all times, be available for inspection by the VDOT Maintenance of Traffic Coordinator and a copy of the diary shall be submitted to the MOT Coordinator on a weekly basis.

The work zone traffic control diary(s) shall become the property of the Department at the completion of the project. Failure to submit the diary shall result in the withholding of final payment until the diary(s) is submitted.

**D. Availability of TCS**

Traffic control management shall be provided under the supervision and direction of the TCS on a 24-hour-per-day basis throughout the duration of the project.

The TCS shall be available on every working day—on call at all times—and available upon the Area Construction Engineer's request during normal working hours and during other than normal working hours in the case of emergency. The provisions for availability of the TCS shall also be met during times of partial or full project suspension. Contact telephone numbers for the TCS(s) shall be provided to Department project personnel, the Area Construction Engineer, the Residency Administrator, and the region Smart Traffic Center prior to the Contractor commencing work requiring work zone traffic control management.

**E. Failure to Comply**

The Area Construction Engineer may suspend all or part of the Contractor's operation(s) for failure to comply with the approved "Traffic Control Plan" or failure to correct unsafe traffic conditions within 24 hours for critical items and 72 hours for non-critical items after such notification is given to the Contractor in writing.

In the event that the Contractor does not take appropriate action to bring the deficient work zone traffic control into compliance with the approved traffic control plan or fails to correct the unsafe traffic conditions, the Department may proceed with the corrective action using its own forces, equipment, and material to maintain the project and such costs, plus 25 percent for supervisory and administrative personnel, will be deducted from the money owed to the Contractor for the project.

The Contractor shall not be relieved of the responsibility to provide work zone traffic control safety to the traveling public when a project is under full or partial suspension. When a project is under suspension due to the Contractor's failure to comply with this section, or when the contract is under liquidated damages, the Contractor shall continue to provide work zone traffic control management and no additional measurement or payment will be made.

If suspensions or partial suspensions are requested by the Contractor, the additional work zone traffic control management costs will be at the Contractor's expense.

**III. MEASUREMENT AND PAYMENT**

**Work Zone Traffic Control Management** will be paid for at the contract lump sum price. This price shall be full compensation for furnishing 24 hour services as specified, including preparing and furnishing Work Zone Traffic Control diaries.

When work zone traffic control management is paid for by the lump sum, monthly partial payments for work zone traffic control management will be made on a pro rata basis for the estimate period being vouchered for payment.

In the event the contract time is authorized to be extended in accordance with the provisions of Section 108.04 of the Specifications, the provisions of Section 104.02 of the Specifications will not apply. The payment for this item will be compensated on a daily basis by dividing the original lump sum bid amount by the number of calendar days in the original contract time and the resultant daily dollar value assigned to this item.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Work Zone Traffic Control Management	Lump Sum

**——SELECT USE 500 SERIES SPs (SPECIAL PROVISIONS)——**

**NONE**

**——STANDARD 500 SERIES SSs (SUPPLEMENTAL SPECIFICATIONS)——**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 512—MAINTAINING TRAFFIC**

**SECTION 512—MAINTAINING TRAFFIC** of the Specifications is amended as follows:

**Section 512.03(a) Signs** is amended to replace the last paragraph with the following:

When construction signs are covered to prevent the display of the message, the entire sign shall be covered with silt fence or other materials approved by the Engineer such that no portion of the message side of the sign shall be visible. Plywood shall be used on ground-mounted construction signs only. Attachment methods used to attach the covering material to the signs shall be of a durable construction that will prevent the unintentional detachment of the material from the sign. At no times shall a construction sign and/or post be rotated to prevent the display of the message. In addition, the posts where the signs are being covered shall have two ED-3 Type II delineators mounting vertically on the post below the signs at a height of 4 feet to the top of the topmost delineator. The bottom delineator shall be mounted 6 inches below the top delineator.

**Section 512.03(b) Flagger Service and Pilot Vehicles** is amended to replace the last paragraph with the following:

Portable traffic control signals conforming to the requirements of Section 512.03(h)2 of the Specifications may be used in lieu of flagger service when specified or approved by the Regional Traffic Engineer. When portable traffic control signals are used in lieu of flagger service, the portable traffic control signals will be measured and paid for separately.

**Section 512.03(e)b. Group 2 devices** is amended to replace the first paragraph with the following:

- b. **Group 2 devices** shall be drums or vertical panels. Drums shall be round, or partially round with no more than one flat side; made from plastic; have a minimum height of 36 inches, have a cross-sectional width no less than 18 inches in any direction; and conform to the requirements of the *Virginia Work Area Protection Manual*. Drums shall be designed to allow for separation of ballast and drum upon vehicular impact but not from wind and vacuum created by passing vehicles. Drums of two-piece design, i.e., drum and associated base, shall utilize sufficient amounts of enclosed sand at the base in accordance with the manufacturer's recommendations to provide stable drum support. The base shall be not greater than 5 inches in height. Two-piece drums may also utilize a flared drum foundation and collar of not more than 5 inches in height and of suitable shape and weight to provide stable support. One-piece drums may be used provided they comply with these above requirements.

**Section 512.03 Procedures** is amended to add (r) **Work Zone Traffic Control** as the following:

- (r) **Work Zone Traffic Control:** The Contractor shall provide individuals trained in Work Zone Traffic Control in accordance with the requirements of Section 105.14 of the Specifications.

**Section 512.04 Measurement and Payment** is amended to add the following:

**Basic Work Zone Traffic Control** – Separate payment will not be made for providing a person to meet the requirements of Section 105.14 of the Specifications. The cost thereof shall be included in the price of other appropriate pay items.

**Intermediate Work Zone Traffic Control** - Separate payment will not be made for providing a person to meet the requirements of Section 105.14 of the Specifications. The cost thereof shall be included in the price of other appropriate pay items.

**Section 512.04 Measurement and Payment** is amended to replace the pay item and corresponding pay unit for “**Eradication of existing pavement markings**” with the following:

**Eradication of existing pavement markings** will be measured in linear feet of a 6-inch width or portion thereof as specified herein. Widths that exceed a 6-inch increment by more than 1/2 inch will be measured as the next 6-inch increment. Measurement and payment for eradication of existing pavement markings specified herein shall be limited to linear pavement line markings. Eradication of existing pavement markings will be paid for at the contract unit price per linear foot. This price shall include removing linear pavement line markings and disposing of residue.

**Eradication of existing nonlinear pavement markings** will be measured in square feet based on a theoretical box defined by the outermost limits of the nonlinear pavement marking. Nonlinear pavement markings shall include but not be limited to stop bars, arrows, images and messages. Eradication of existing nonlinear pavement markings will be paid for at the contract unit price per square foot. This price shall include removing nonlinear pavement markings and disposing of residue.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Eradication of existing pavement marking	Linear foot
Eradication of existing nonlinear pavement marking	Square foot

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 522—PARTNERING**

**I. DECLARATION AND DESCRIPTION**

The Virginia Department of Transportation (VDOT) is firmly committed to the formation of a partnering relationship with the Contractor, all subcontractors, suppliers, FHWA representatives; where appropriate, other federal agencies, local government officials, utilities representatives, law enforcement and public safety officials, consultants, and other stakeholders to effectively and efficiently manage and complete each construction or maintenance contract to the mutual and individual benefits and goals of all parties. Partnering is an approach to fulfilling this commitment where all parties to the contract, as well as individuals and entities associated with or otherwise affected by the contract, willingly agree to dedicate themselves by working together as a team to fulfill and complete the construction or maintenance contract in cost effective ways while preserving the highest standards of safety and quality called for by the contract documents combined with the goals of on time/on budget completion. The approach must still allow for the fact that the members of the team share many common interests yet have differing authorities, interests, and objectives that must be accommodated for the project to be viewed as successful by all parties. It is recognized by VDOT that partnering is a relationship in which:

- Trust and open communications are encouraged and expected by all participants
- All parties move quickly to address and resolve issues at the lowest possible level by approaching problems from the perspectives and needs of all involved
- All parties have identified common goals and at the same time respect each other's individual goals and values
- Partners create an atmosphere conducive to cooperation and teamwork in finding better solutions to potential problems and issues at hand

**II. PARTNERING STRUCTURE**

It is the business intent of the Department that partnering will be required on all projects, either in the formal sense or informally where the spirit and principles of partnering are practiced from onsite field personnel to executive level owners and employees. The VDOT Field Guide to Partnering available on the VDOT website <http://www.virginiadot.org/business/resources/partnerfinalallowres.pdf> will be the standard reference guide utilized to structure and guide both types of partnering efforts. This guide will be systematically evaluated to incorporate better practices as our partnering efforts evolve. Of particular note is the need for effective and responsive communication between parties to the partnering relationship as emphasized by the Special Provision for Project Communication and Decision Making now included as standard provision in all contracts advertised by the Scheduling and Contract Division of VDOT.

Where formal partnering is specifically required as a pay item in the contract, partnering efforts shall be promoted by a professional facilitator trained in partnering principles. Partnering, and more specifically the Partnering Charter, will not change the legal relationship of the parties to the Contract nor relieve either party from any of the terms of the Contract.

Informal partnering need not require the services of a professional facilitator and may be conducted by the actual partnering participants themselves. Informal partnering will also not change the legal relationship of the parties to the Contract nor relieve either party from any of the terms of the Contract.

**III. PROCEDURES**

The following are general procedures for partnering and are not to be considered as inclusive or representative of procedural requirements for all projects. Participants shall consult the VDOT Field Guide for Partnering for assistance in developing specific guidelines to those efforts required for their individual projects.

#### **A. Formal Partnering**

##### **Pre-Partnering Meeting**

The Contractor's Project Manager or designee and the VDOT District Administrator or designee shall mutually schedule a Pre-Partnering meeting prior to the Partnering Workshop as soon as possible after the Department's award of the contract. During the Pre-Partnering meeting these individuals or their representatives shall develop an agenda for the workshop, select a facilitator, decide on those individuals and entities associated with or affected by the Construction contract that should be invited to participate and extend appropriate notice in sufficient time to arrange attendance and meaningful participation. The selection of the facilitator must be mutually acceptable to both the Department and the Contractor.

##### **Partnering Workshop**

Generally, the Partnering Workshop will be scheduled after the pre-construction conference. Formal partnering efforts require that the Contractor be responsible for employing a facilitator trained in the recognized principles of partnering to conduct the first preconstruction partnering workshop, known as the Formal Partnering Kick-Off Workshop. The facilitator will lead all parties through the Partnering Workshop agenda and the VDOT Field Guide to Partnering during the kick-off workshop. The extent of the formal partnering preconstruction workshop and agenda will be predicated on project complexity, size, number of potential stakeholders, potential outstanding issues, and local needs, etc. The Formal Partnering Kick-Off Workshop will establish the specific frequency and general schedule for further Partnering meetings.

#### **B. Informal Partnering**

Where informal partnering is applicable, at least 5 days prior to or in connection with the preconstruction conference the Contractor shall attend a conference with the Engineer at which time he and the Engineer shall discuss the extent of the informal partnering efforts required for the project, how these have been accommodated in the Contractor's bid and the identity of expectations and stakeholders associated with the project. Informal partnering efforts require the Department and the Contractor to mutually choose a single person from among their collective staffs, or a trained facilitator to be responsible for leading all parties through the VDOT Field Guide to Partnering and any subsequent partnering efforts.

##### **Partnering Meetings During Project Construction**

In either formal or informal partnering efforts the Contractor shall provide a location for regularly scheduled partnering meetings during the construction period. Such meetings will be scheduled as deemed necessary by either party. The Contractor and VDOT will require the attendance of their key decision makers, including subcontractors and suppliers. Both the Contractor and VDOT shall also encourage the attendance of affected utilities, concerned businesses, local government and civic leaders or officials, residents, and consultants, which may vary at different times during the life of the Contract. The Department and the Contractor are to agree upon partnering invitees in advance of each meeting. Follow-up partnering workshops may be held throughout the duration of the project as deemed necessary by the Contractor and the Engineer.

#### **IV. MEASUREMENT AND PAYMENT**



Formal Partnering (Kick-Off Workshop) will be measured per day and will be paid for at the contract unit price per day which price shall include providing the partnering facilities, professional facilitation, and other miscellaneous costs including copying fees and refreshments. Subsequent follow-up partnering workshops are not considered a pay item, unless the Contractor and the Engineer mutually agree in advance it is appropriate to hold additional formally facilitated workshop(s), in which case the method of measurement and basis of payment will be the same as for the Formal Partnering (Kick-Off Workshop). The maximum daily value for this pay item shall not exceed \$5,000 unless otherwise specified.

In Informal Partnering, because the extent to which certain partnering activities are pursued is at the Contractor's option, and may vary according to project complexity, work history between the parties, project duration, the Contractor's own unique methods, means, and schedule to execute and complete the work, etc., informal partnering shall not be paid for as a separate bid item but the all costs associated with informal partnering efforts for the duration of the work shall be considered inclusive and incidental to the cost of other appropriate items.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Formal Partnering	Day

**—DIVISION VI— ROADSIDE DEVELOPMENT—**

None

## **—DIVISION VII– TRAFFIC CONTROL DEVICES—**

——STANDARD 700 SERIES SPCNs (SPECIAL PROVISION COPIED NOTES)——

NONE

**——SELECT USE 700 SERIES SPECIAL PROVISION COPIED NOTES (SPCNs)——**

**SAW CUT** — Section 703.04—Measurement and Payment of the Specifications is amended to replace the ninth paragraph (**Saw cuts**) with the following:

**Saw cut** will be measured in linear feet for the width specified and will be paid for at the contract unit price per linear foot. This price shall include cutting, cleaning, drilling, disposing of surplus material, furnishing and installing backer rods, and loop sealant material.

**Pay Item**

**Pay Unit**

Saw Cut (Width)

Linear foot

10-2-08a (SPCN)

**——STANDARD 700 SERIES SPs (SPECIAL PROVISIONS)——**

**NONE**

——SELECT USE 700 SERIES SPs (SPECIAL PROVISIONS)——



VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION  
**PREFORMED THERMOPLASTIC PAVEMENT MARKINGS**

November 29, 2011b

**I. DESCRIPTION**

These specifications provide criteria for furnishing and installing durable, retroreflective preformed thermoplastic material for use in installing pavement markings, message markings and pavement marker applications. Lines, legends and symbol material shall be capable of being affixed (fusing) to asphalt concrete (bituminous) pavements by the use of a heating source.

**II. DETAIL REQUIREMENTS**

Preformed thermoplastic marking materials shall be in accordance with the Department's [approved products list](#).

Material shall be a preformed, beaded reflectorized thermoplastic pavement marking material that is applied to the road surface using a heat source such as a propane torch. Upon cooling to normal pavement temperature, the material shall produce a reflectorized message, legend or symbol of specified thickness, width or design capable of resisting deformation to traffic. Material shall not distort because of temperature variations prior to application. The Contractor shall ensure that the pavement surface is clean, dry and free of debris or other deleterious material which may affect performance by removing all dust, dirt, loose particles heavy oil residues and other deleterious materials that may affect proper installation. Manufacturer/Supplier must enclose application instructions (multilingual) in with each box/package of materials.

Material shall be suitable for use on asphalt concrete surfaces and shall be capable of being applied to previously applied pavement marking material of the same composition under normal conditions of use. Marking material must be capable of conforming to pavement contours, breaks and faults through the action of traffic within the range of temperatures as specified herein. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastic when heated with the heat source. In addition to being capable of fusing itself over existing markings such new markings shall be furnished to match the size dimensions and shape of existing markings.

Material shall not exude fumes that are toxic or injurious to persons, animals or property when heated to the application temperature.

Material shall withstand air and roadway temperature variations from 0 degrees F to 140 degrees F without deforming, bleeding, staining, discoloring and shall maintain their original dimensions and placement without chipping, spalling, or cracking. Material shall not deteriorate because of contact with sodium chloride, calcium chloride, mild alkalies and acids, or other ice control material; oil in the pavement material; or oil and gasoline drippings from vehicles.

Material, except for reversible arrows, shall have factory applied coated surface and intermixed beads. Intermixed beads shall be uniformly distributed throughout the material at a minimum of 30 percent by weight. Reversible arrows shall have intermixed beads only. Surface beads for reversible arrows shall conform to the requirements of Section 234 and be furnished and applied by the installer.

Initial skid resistance value shall be at least 45 BPN when tested in accordance with ASTM E 303.

Retained retroreflectivity, durability and color of markings shall conform to the following requirements after being installed on a northern region test deck for one year.

**Retroreflectivity:** Photometric quantity to be measured is coefficient of retroreflected luminance ( $R_L$ ) in accordance with the requirements of ASTM E 1710.  $R_L$  shall be expressed in millicandelas per square foot per foot per foot-candle and shall be at least the following values when measured in the wheel path area.

	Initial	Retained (after 1 Year)
White	300	90
Yellow	200	70

**Durability:** Material shall have a durability rating of at least 4 when determined in the wheel path area.

**Retained Daytime Color:** Retained daytime color of markings shall conform to the requirements of ASTM D 6628.

**Initial Nighttime Color:** Initial nighttime color of preformed thermoplastic plastic pavement marking material shall conform to the following CIE chromaticity coordinate requirements when tested in accordance with VTM 111.

CIE CHROMATICITY COORDINATE LIMITS (INITIAL WITH DROP-ON BEADS)								
Color	1		2		3		4	
	x	y	x	y	x	y	x	y
Yellow	0.486	0.439	0.520	0.480	0.560	0.440	0.498	0.426

Material shall not be formulated with any compounds of the heavy metals listed in 40 CFR 261.24 Table 1 except that barium sulfate is allowed. Total heavy metal levels, with the exception of barium sulfate, shall not exceed 20 times the specified regulatory limits.

Amount and type of yellow pigment and inert filler for yellow material shall be at the option of the manufacturer provided the material complies with all other requirements of this specification.

Material to be supplied may be of either of the following types:

- Type where the manufacturer requires preheating of the roadway surface to a specified temperature prior to installation of the preformed thermoplastic material.
- Type where the manufacturer requires preheating of the roadway surface prior to installation of the preformed thermoplastic material to only remove moisture when necessary.

Current manufacturer installation instructions will be used to determine which type material a manufacturer produces. A copy of the instructions shall be provided to the Engineer.

When installing over existing thermoplastic markings new preformed thermoplastic pavement markings shall conform to the shape and completely adhere (fuse) to the old existing markings. Materials on this list determined not to conform to these requirements based on this verification testing will not be acceptable.

Materials failing any of the requirements of this provision will be deemed unacceptable and the Contractor shall then furnish acceptable materials meeting these requirements at no additional cost to the contract.

### III. DESIGN APPLICATIONS

Crosswalks and stop lines shall be installed using preformed thermoplastic pavement markings conforming to the details and dimensions of the contract. Crosswalk lines shall be one foot wide and stop lines shall be two feet in width.

Pavement message markings and symbols shall be installed using preformed thermoplastic pavement markings conforming to the designs and dimensions detailed in the contract.

### IV. MEASUREMENT AND PAYMENT

**Preformed thermoplastic pavement marking** will be measured in linear feet or each depending on the configuration of the message marking (linear, message or symbol) as designated in the contract and will be paid for at the contract unit price per linear foot or each as specified by the individual message marking. This price shall include furnishing pavement marking material, message or symbol, surface preparation, primer-sealer, additional surface glass beads, installation, daily log (Form C-85), guarding devices, or other incidentals recommended for installation by the manufacturer.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Preformed (width) Thermoplastic	Linear foot or Each

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PAVEMENT DOTTING**

October 8, 2008a

**I. DESCRIPTION**

This work shall consist of the furnishing and placing of pavement dots to establish the location of pavement markings on the roadway in accordance with the requirements specified herein and as directed by the Engineer. This work is for those sections of roadways where the final pavement markings will be installed by the Department or by other contracts. Those sections of roadways where the Contractor installs the final pavement markings shall not require pavement dotting, however, premarking may be accomplished at the Contractor's option in accordance with Section 704.03 of the Specifications.

**II. MATERIALS**

Pavement dots shall be removable tape (Type D, Class I or II) conforming to the requirements of Section 246.02(g)1 of the Specifications. Pavement dots shall consist of 4-inch by 4-inch squares or 4-inch diameter circles and shall be of the same color as the final pavement markings to be installed.

**III. PROCEDURES**

Pavement dots shall be placed on the new pavement surface for each individual pavement marking line unless otherwise directed by the Engineer. Pavement dots shall be placed in the same lateral position along the roadway where the existing markings were located.

Pavement dots shall be installed at 100-foot intervals in tangent sections and 50-foot intervals in curved sections. Less spacing may be used as needed for but not limited to such pavement markings items as stop lines, crosswalk lines, and hatching. Pavement dotting shall be installed in accordance with the manufacturer's recommendation.

**IV. MEASUREMENT AND PAYMENT**

**Pavement dotting** will be measured and paid for at the contract unit price per mile of pavement line dotted, to the nearest one-tenth of a mile. This price shall be full compensation for furnishing and installing the pavement dots, and all materials, labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Pavement dotting	Mile

**——STANDARD 700 SERIES SSs (SUPPLEMENTAL SPECIFICATIONS)——**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 700—GENERAL**

**SECTION 700—GENERAL** of the Specifications is amended as follows:

**Section 700.02(i)** the first sentence is replaced with the following:

**Poles, posts, and overhead sign structures** shall conform to the following:

**Section 700.02(i)2.** is replaced with the following:

2. **Overhead sign structures, signal poles (mast arm and strain), and high-mast lighting poles** shall be steel.

**Section 700.02(i)4. Poles, posts, and overhead sign structures** is replaced with the following:

4. **Sign posts** shall be wood or steel. Square tube post shall be hot-rolled, carbon sheet steel, structural steel quality, conforming to the requirements of ASTM A 1011, Grade 50 except the yield strength after cold-forming shall be 60,000-psi minimum. Steel mounting brackets shall conform to the requirements of ASTM A36. Posts (inside and outside) shall be galvanized in accordance with the requirements of ASTM A653, Coating Designation G-90.

**Section 700.02(i)** the first and second paragraph is replaced with the following:

Lighting, signal, pedestal poles; sign posts; and overhead sign structures not designed to support variable message signs shall conform to the requirements of the 1994 Edition of AASHTO's *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*.

Overhead sign structures, including "butterfly" structures, designed to support variable message signs shall conform to the requirements of the 2001 Edition of AASHTO's *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* and the following clarifications:

- Basic wind speed shall be used in the designs. The alternate method for wind pressures provided in Appendix C shall not be used.
- When the installation location of the structures lies between isotachs, the basic wind speed shall be determined by using the higher adjacent isotach.
- Any optional design parameters indicated in the AASHTO specification that are "allowed when acceptable to the owner" shall not be used for the designs.

Steel poles, posts, and overhead sign structures shall be hot-dip galvanized after fabrication. Except when shop painting is required, steel poles and posts shall be given one shop coat of primer and two field coats of paint and the galvanization finish of overhead sign structures shall be field treated for paint retention and two coats of paint applied.

**Section 700.04(a)1. Grounding Electrodes** is amended to replace the seventh paragraph with the following:

- The Contractor shall install a junction box at the primary grounding electrode location for access to the electrode for connection and testing. Grounding electrode conductors shall

be installed under the bottom flange of the junction box. The grounding electrode shall be centered in the bottom of the junction box with a minimum of 6 inches exposed. The junction box cover shall have the letters "VDOT ELEC" cast in the depression on the top.

**Section 700.04(a)2. Grounding electrode testing** is replaced with the following:

2. **Grounding electrode testing:** Primary grounding electrodes shall be tested after each 10-foot grounding electrode and/or section thereof is installed using the fall of potential (three-point measurement) method. After the primary grounding electrode is installed and tested, the Contractor shall connect to the augmented electrode(s) to conduct a system test. The Contractor shall disconnect the grounding electrode conductor from the service equipment ground bus and bonding bushing before testing the grounding electrodes/system. The Contractor shall test the grounding electrode as required by the manufacturer's instructions for the type of earth testing equipment. The Contractor shall record the readings on a form provided by the Regional Traffic Engineering Office. The completed form shall be signed and submitted to the Engineer after installation of the electrical service grounding.

**Section 700.04(e) Poles, Posts, and Sign Structures** is amended to include the following:

Square tube sign post shall have 7/16-inch (+/- 1/64-inch) openings or knockouts spaced 1-inch on centers on all four sides. When specified on the plans a 2 3/16-inch inner-post shall be used with the 2 1/2-inch post for additional strength. The inner-post shall be no less than 6 feet long.

Where posts are to be mounted on a retaining wall or barrier, the Contractor shall provide a mounting bracket, fabricated from steel conforming to the requirements of ASTM A36 and hot dipped galvanized in accordance with ASTM A123. Mounting bracket shall be designed so no connection to the barrier is made on the traffic side of the barrier and shall be secured to the barrier and wall using stainless steel chemically adhesive anchors.

**Section 700.04(g)1. Electrical service and lighting conductor identification** is amended to replace the fifth paragraph with the following:

Color-coding shall be as follows:

**2-wire circuits, 120 Volts; 3-wire circuits, 120/240 Volts; 3-phase, 4-wire wye circuits, 208/120 Volts and; 3-phase, 4-wire delta circuits, 240 Volts**

Circuit Designation	Color Code
Phase A or Line A	Black
Phase B or Line B	Red or orange*
Phase C	Blue
Grounded Conductor (Neutral)	White or gray** (see exception above)
Equipment Grounding Conductor	Bare, green, or green with one/more yellow stripes

**3-phase, 4-wire wye circuits, 480/277 Volts; 3-phase, 3-wire delta circuits, 480 volts**

Circuit Designation	Color Code
Phase A	Brown
Phase B	Orange
Phase C	Yellow
Grounded Conductor (Neutral)	White or gray** (see exception above)
Equipment Grounding Conductor	Bare, green, or green with one/more yellow stripes

- \* For 3-phase, 4-wire delta circuits, Phase B shall be the high leg and shall be orange.
- \*\* For outer covering of conductors of different systems that is contained within the same enclosure, refer to Article 200 of the NEC.

**Section 700.04(h) Conduit Systems** is amended to include the following:

When a conduit enters a box, fitting, or other enclosure, a bushing shall be provided to protect the conductor cable from abrasion unless the design of the box, fitting, or enclosure is such to afford equivalent protection of the conductor cable.

**Section 700.04(h)2. Buried conduit systems** is amended to replace the second paragraph with the following:

When conduit is to be installed under an existing roadway, entrance, or fixed object and open cutting is not permitted, conduit shall be installed by an approved directional boring method. Conduit for the directional boring method shall be PVC designed specifically for the directional boring operation or high-density PE. When the plans show more than one conduit at a location to be installed by directional boring, with the Engineers approval the Contractor may elect to install multiple conduits into a single bore at no additional cost to the Department.

<b>MAXIMUM PILOT OR BACK REAMER BIT DIAMETER WHEN ROATED 360<sup>0</sup></b>	
<b>NOMINAL INSIDE PIPE DIAMETER INCHES</b>	<b>BIT (REAMER) DIAMETER INCHES</b>
1 - 2"	4" BORE HOLE
2 - 2"	5" BORE HOLE
3 - 2"	8" BORE HOLE
1 - 3"	5" BORE HOLE
2 - 3"	6 ½ " BORE HOLE
3 - 3"	8" BORE HOLE
1 - 4"	6 ½ " BORE HOLE

The Contractor shall use an approved stabilizing agent mixed with potable water to create the drilling fluid (mud slurry) for lubrication and soil stabilization. The fluid viscosity may vary to best fit the soil conditions encountered. Do not use any chemicals or polymer surfactants in the drilling fluid without written consent from the Engineer. The Contractor shall certify to the Engineer in writing that any chemical added to the drilling fluid is environmentally safe and not harmful or corrosive to the conduit system.

The Contractor may elect to use the jacked method to install a pipe sleeve for installation of the required conduit at no additional cost to the Department.

If an obstruction is encountered during the directional boring or jacking operation that requires abandonment of the hole (tunnel), it shall be backfilled with a flowable fill immediately, at no additional cost to the Department.

**Section 700.04(i) Junction Box Covers** is replaced with the following:

(i) **Junction Boxes** shall be installed as follows:

The junction box site shall be excavated such that the depth of the excavation shall be the height of the junction box plus at least twelve inches to allow for bedding aggregate material and such that the width shall be six to eight inches wider than the junction box.



Bedding material shall be No. 68, No. 78, or No. 8 aggregate or Crushed Glass conforming to No. 78, or No. 8 gradation requirements. Aggregate shall be a minimum of twelve inches in depth and entirely cover the bottom of the junction box excavation. The bedding aggregate shall be leveled and tamped prior to installing the junction box.

Junction box shall be installed and leveled to grade prior to backfilling.

Prior to backfilling the interior of polymer concrete junction boxes (JB-S1, JB-S2 and JB-S3) shall be braced with 2 inch by 4 inch lumber using two braces across the width and one brace across the length of the box or as required by the manufacturer. Bracing shall be installed to facilitate removal once back filling and compaction have been completed. The Contractor shall remove internal bracing after the backfilling and compacting operation has been completed.

The cover of the junction box shall be installed prior to backfilling.

The junction box shall be backfilled and compacted around its perimeter utilizing six to eight inch horizontal lifts to where the concrete collar is to begin. Once the concrete collar has cured the remaining area around the collar shall be backfilled and compacted as stated above. Compaction shall be at least ninety percent of the theoretical maximum density as defined in Section 101.02 of the Specifications. A mechanical tamping device shall be used to compact the backfill and soil layer by layer around the perimeter of the junction box. The wheel of a backhoe or other type vehicle shall not be used for compaction of backfill and soil. The internal bracing shall be removed after backfilling and compaction has been completed. The area around the junction box shall be graded and restored as stated in the Specifications.

Junction boxes shall not be installed or backfilled in standing water. Backfill material shall be free of large stones, wood or other debris and shall not be saturated with water.

If a special tool or wrench is required to remove the cover, the Contractor shall furnish the Engineer with five such tools.

**Section 700.05—Measurement and Payment for Concrete foundations** is replaced with the following:

**Concrete foundations** will be measured and paid for in units of each or cubic yards of concrete as applicable. When paid for in cubic yards of concrete, no payment will be made for concrete in excess of the cubic yards of concrete required by the foundation design unless otherwise approved by the Engineer. This price shall include foundation design, concrete, reinforcing steel, stub poles, slip base, anchor sleeve, anchor bolts, bolt circle templates, grounding equipment, conduits, excavating, backfilling, compacting, disposing of surplus and unsuitable material, and restoring existing areas.

**Section 700.05—Measurement and Payment for Overhead and bridge-mounted sign structures** is replaced with the following:

**Overhead sign structures** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include structural units and supports, hand holes and covers, grounding lugs, electrical systems including conduit and fittings, and identification tags.

**Section 700.05—Measurement and Payment for, Junction boxes** is replaced with the following:

**Junction boxes** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include concrete collars, frames and covers, tools to remove the cover, ground rods, ground conductors, grounding lugs, knockouts, cable racks, bracing, aggregate,

excavating, backfilling, compacting, disposing of surplus and unsuitable material, and restoring existing areas.

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 701—TRAFFIC SIGNS**

**SECTION 701—TRAFFIC SIGNS** of the Specifications is amended as follows:

**Section 701.03—Procedures** is amended as follows:

**Section 701.03(a)2. Sign panels** is amended to include the following:

Extruded sign panels shall be in accordance with the drawings and Section 229.02(c) of the Specifications.

**Section 701.03(d) Erection** is amended to replace the first sentence of the first paragraph with the following:

Vertical clearance for overhead sign structures shall be no less than 19 feet 0 inch and no more than 21 feet 0 inch from the bottom of the lowest mounted sign panel to the crown of the roadway unless otherwise specified on the plans

**Section 701.03(d) Erection** is amended to delete the last sentence of the first paragraph:

**Section 701.03(d) Erection** is amended to delete the last paragraph:

**Section 701.03(d) Erection** is amended to include the following:

Overlay panels shall be preformed on a flat surface with no protruding bolts or bolt heads on the existing sign panel.

Overlay of overhead sign panels shall be in accordance with the plan details.

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 703—TRAFFIC SIGNALS**

**SECTION 703—TRAFFIC SIGNALS** of the Specifications is amended as follows:

**Section 703.02—Equipment** is amended as follows:

**Section 703.02(g)—Detectors** is amended to delete 1. Magnetic detectors and 2. Magnetic detector amplifiers.

**Section 703.03—Procedures** is amended as follows:

**Section 703.03(e) Installing signal heads** is amended to replace the last sentence of the second paragraph with the following:

Joints shall be rendered weatherproof by an approved method.

**Section 703.03(g)1.—Magnetic Detectors** is deleted.

**Section 703.04—Measurement and Payment** is amended as follows:

**Section 703.04—Measurement and Payment** is amended to delete the sixth paragraph, **Magnetic detector sensing elements** and the fourteenth paragraph, **Cable terminal enclosures**.

**Section 703.04—Measurement and Payment** is amended to include the following:

**Pedestrian actuation** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include pedestrian pushbutton, fittings, sign(s), conduit, conduit when required, supplementary grounding electrode, grounding conductor, and concrete foundation when required.

**Flashing beacon** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include galvanized post, conduit, concrete foundation, grounding electrode, ground conductor, signal heads, breakaway connectors, sign panels and mounting hardware.

Payment will be made under:

Pay Item	Pay Unit
Pedestrian actuation (Standard)	Each
Flashing beacon (Standard)	Each

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2007 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SUPPLEMENTAL SECTION 704—PAVEMENT MARKINGS AND MARKERS**

**SECTION 704—PAVEMENT MARKINGS AND MARKERS** of the Specifications is amended as follows:

**TABLE VII-1 PAVEMENT MARKINGS** is replaced with the following:

**TABLE VII-1  
Pavement Markings**

Type	Class	Name	Surface Temp. at Time of Application	Film Thickness (mils)	Pavement Surface	Application Limitations
A		Traffic paint	50°F+	15 ± 1 when wet	AC HCC	May be applied directly after paving operations
B	I	Thermoplastic Alkyd	50°F+	90 ± 5 when set	AC	May be applied directly after paving operations
	I	Thermoplastic Hydrocarbon	50°F+	90 ± 5 when set	AC	Do not apply less than 30 days after paving operations
	II	Preformed Thermoplastic	50°F+	120-130	AC HCC	Manufacturer's recommendations
	III	Epoxy resin	50°F+	20 ± 1 when wet	AC HCC	Pavement surface needs to be at least 1 day old
	IV	Plastic-backed preformed Tape	(Note 1)	60 - 90	AC HCC	Manufacturer's recommendations
	VI	Profiled preformed Tape	(Note 1)	(Note 1)	AC HCC	Manufacturer's recommendations
	VII	Polyurea	(Note 1)	20 ± 1 when wet	AC HCC	Manufacturer's recommendations
D	I & II	Removable tape	(Note 1)	(Note 1)	AC HCC	Construction zone pavement marking
E		Removable Black tape (Non-Reflective)	(Note 1)	(Note 1)	AC	Construction zone pavement marking for covering existing markings
F	I & II	Temporary markings	(Note 1)	40 max	AC HCC	Construction zone pavement marking

**Note 1:** In accordance with manufacturer's recommendation.

## SECTION 512 - MAINTAINING TRAFFIC

*VDOT specification section 512 is amended to include the following:*

### **512.04 – Measurement and Payment**

Add the following:

**Maintaining Traffic** will be paid for at the contract lump sum price. The cost of all materials, labor, and equipment as well as incidental expenses shall be included in the lump sum price for Maintaining Traffic.

## **DIVISION VII – TRAFFIC CONTROL DEVICES**

***VDOT specification section 700.02 is amended as follows:***

**700.02(i) – Poles, posts, and overhead and bridge-mounted sign structures, is amended to include the following:**

Steel poles and mast arms shall be hot-dipped galvanized in accordance with ASTM A123 and then powder coated black. Powder coat finish shall consist of a Urethane or Triglycidyl Isocyanurate (TGIC) Polyester Powder. The exterior steel surface shall be blast cleaned utilizing cast steel abrasives prior to pre-baking and degassing at the maximum temperature of 450 degrees Fahrenheit for a minimum of one (1) hour. Then all exterior surfaces shall be cleaned and coated with a Urethane or Triglycidyl Isocyanurate (TGIC) Polyester Powder to an average dry film thickness (DFT) of 4.0 mils (0.004”) with no readings below 3 mils (0.003”) within four (4) hours following pre-baking. The powder coating shall be electrostatically applied and then cured in a gas fired convection oven at a temperature range of 350-400 degrees Fahrenheit. The thermosetting powder resin shall provide both intercoat as well as substrate fusion adhesion the meets 5A or 5B classifications as ASTM D3359.

***VDOT specification section 700.04 is amended as follows:***

***700.04(h) ninth paragraph, is entirely replaced by the following:***

Non-metallic conduit with non-metallic cable (fiber optic) within shall be equipped with a No. 12 locator wire. Locator wire shall be grounded in accordance with the NEC for non-current carrying conductors. Pull locator wire simultaneously in a continuous length with the fiber optic cable. Provide waterproof butt splices where locator wire is spliced. Splicing is allowed only in cabinets, manholes, and junction boxes. Label all locator wires entering the equipment cabinet.

**700.04 (h) is amended to include the following:**

For conduit that contains fiber optic cable:

When obstructions are encountered during installation and conduit cannot be economically located elsewhere, the obstruction shall be bypassed by deflecting the conduit at a rate of at least 10:1. Minimum 4’ radius, maximum 90° bends may be used to avoid obstructions at locations where 10:1 deflection is not possible, provided the least degree bend needed to clear the obstruction is used. Flexible bends may be utilized when needed to facilitate proper location of the conduit, only at locations approved by the Engineer. Conduit runs between any 2 junction boxes shall not employ more than 4 bends, or exceed an angular sum of 270°.

Furnish mechanical sealing devices that provide a watertight barrier between conduit and cables in conduit. Furnish mechanical sealing devices sized in accordance with conduit and with appropriately sized holes to accommodate and seal cables. Provide removable and re-usable mechanical sealing devices.

Furnish non-detectable underground marker tape with the wording “WARNING – Fiber Optic Cable” in all trenches.

Seal conduits containing fiber optic communications cable with mechanical sealing devices.

***VDOT specification section 700.05, fifth paragraph, is entirely replaced by the following:***

**Signal poles** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include pole shafts, luminaire and surveillance camera arms, all metal finishing, grounding lugs, hand holes and covers, caps, identification tags, anchor bases, bolt covers, bracket arms, and breakaway support systems.

***VDOT specification section 700.05, eleventh paragraph, is entirely replaced by the following:***

**Conduit** will be measured in linear feet and will be paid for at the contract unit price per linear foot. This price shall include conduit bodies, fittings, bonding systems, pull ropes, pull tapes, plastic spacers, No. 12 locator wire when required, pull or splice boxes with an area of 512 cubic inches or less, supports, and protective metal shields.

***VDOT specification section 703.02 is amended as follows:***

**703.02(a) – Traffic Signal Controllers, first paragraph, is amended to include the following:**

Traffic signal controllers shall be NEMA TS-2 Type 2 capable of directly interfacing, without auxiliary devices/converters, and be fully compatible with the City of Hampton's Naztec computerized traffic signal system.

Traffic signal controllers shall be equipped with an RJ-45 Ethernet port capable of communicating with the central system using TCP/IP over an Ethernet-based network. A Naztec Model 980 controller shall be provided, or approved equivalent, unless otherwise approved by the Engineer.

**703.02(d) – Cabinets, is entirely replaced** by the sections entitled 703.05 – TS-2 Controller Cabinet Assembly, 703.06 – TS-2 Controller Cabinet Auxiliary Equipment, 703.07 – TS-2 1992 Cabinet Power Supply, and 703.08 – Malfunction Management Unit.

**703.02(g), 3. Inductive Loop Detectors, is amended to include the following:**

Loop detector amplifiers shall be 3M Canoga Model 824, or an approved equivalent, capable of directly interfacing with traffic controllers without the use of auxiliary devices.

Loop detector amplifiers shall detect and hold all licensed motor vehicles (including 50cc motorcycles) when connected to the proper loop configurations with lead-ins up to one mile with the proper sensitivity setting, without detecting vehicles in adjacent lanes. The output shall be for normal traffic control, with either presence or pulse output.

All output indicators, sensitivity controls, mode, and frequency switches shall be front panel accessible. All switch positions shall be clearly marked on the front panel. Integrated circuits having more than 16 leads shall be socket-mounted to facilitate repair and maintenance of units.

**703.02(g) 4. Pedestrian Detectors, is amended to include the following:**

Pedestrian detectors shall be Cambell Company Model 4 EVR RND (4 bolt), or an approved equivalent, capable of directly interfacing with traffic controllers without the use of auxiliary devices. Unit shall be black in color.

***VDOT specification section 703.03 is amended as follows:***



**703.03(b) Equipment Color is entirely replaced by the following:**

**Equipment Color:** The color of metal equipment shall be obtained by applying two coats of paint. The color of plastic equipment shall be obtained by impregnating the color into the plastic. When painting of aluminum and galvanized metal equipment is required, the equipment surface shall be treated to ensure adherence of the paint. Signal heads, insides of visors, and pedestrian signals, shall be flat black in color. Mounting brackets and backplates (both sides) and signal leveling attachments shall be flat black. The color of signal heads and pedestrian signal heads shall conform to MUTCD standards.

**703.03(g), fourth paragraph, is entirely replaced by the following:**

Detector and detector lead-in cables shall be permanently labeled at all access points. The labels shall be on stainless steel, nonferrous metal, or nylon tags attached to the cable with nylon cable ties. The identification shall be stamped or engraved on metal tags and neatly, legibly lettered with permanent ink on nylon tags. Each cable shall have a unique identifier, to be furnished by the Engineer. Cables shall be labeled immediately upon installation.

**703.03(g), 2. third paragraph, is entirely replaced by the following:**

A Megger reading of at least 100M ohms shall be obtained for each loop detector (cable and shield) only when new detector lead-in cable is also installed. This test shall be made at 500 volts immediately before the sealant is installed and again after the sealant has set at least 24 hours. Cable shall be disconnected from the detector amplifier during testing. This testing requirement is waived for locations where new loop detectors are being connected to existing detector lead-in cables.

**703.03(g), 2. is amended to include the following:**

A sawed slot shall have loop detector cable installed and sealed in a single work shift.

***VDOT specification section 703.04 is amended as follows:***

**703.04, second paragraph, is entirely replaced by the following:**

**Controllers** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include timing data, timing implementation, training, controller cabinets, back panels, power panels, detector panels, auxiliary panels, police panels, thermostatically controlled fan units in the cabinet with a vent, flashers, local flasher switches, radio frequency interference filters, signal switches, main switches, police hand controls, conflict monitors, flasher relay assemblies, power relays, signal control assemblies, lamp receptacles and ground fault convenience receptacles, circuit diagrams, flexible cables, grounding systems, transient protection devices, and fittings.

***703.04, fifteenth paragraph, is entirely replaced by the following:***

**Loop detectors** shall be measured in units of each and will be paid for at the Contract unit price per each. This price shall include furnishing, installing, and testing the loop detector in accordance with the Plans and the Specifications. The costs of stand-alone testing of the detector

loop, the detector lead-in cable, and the detector amplifier shall be included in the unit price for loop detectors. The unit price for loop detectors shall also include saw cutting, cleaning, and drilling, furnishing and installing PVC conduit to the roadside junction box, disposing of surplus material, furnishing and installing 12/1 conductor and polybutylene tube jacket, markings/identifications/permanent labeling, and splice kits, electrical tape, backer rods, and loop sealant material. The unit price shall be full compensation for furnishing all labor, materials tools, equipment, and incidentals necessary to complete the work.

City of Hampton, Virginia  
Public Works – Traffic Engineering & Operations

**SECTION 703.05 - TS-2 CONTROLLER CABINET ASSEMBLY**

*(Last revised: 3 February 2004)*

**1.0 SCOPE**

This specification sets forth the minimum requirements for a control cabinet assembly. The cabinet assembly shall meet, as a minimum, all applicable sections of the NEMA Standard Publication No. TS-2 1992. All cabinets shall meet the requirements of a NEMA 3R rating, and shall be U.L. listed as an entire unit. Where differences occur, this specification shall govern.

**2.0 CABINET DESIGN AND CONSTRUCTION**

**2.1 GENERAL**

2.1.1 The cabinet and door(s) shall be constructed from type 5052-H32 aluminum with a minimum thickness of 0.125 inches. The top, door, and each side of the cabinet shall each be a single sheet of aluminum. Welding pieces together to form any of these surfaces shall not be permitted. External welds shall be made by using the Heliarc welding method, whereas internal welds will be made by the wire welding method. All welds shall be neatly formed and free of cracks, blowholes, and other irregularities.

2.1.2 All inside and outside edges of the cabinet shall be free of burrs. All sharp edges shall be made smooth.

2.1.3 The cabinet shall be designed and manufactured with materials that will allow ridged mounting, whether intended for pole, base or pedestal mounting. The cabinet must not flex on its mounting.

2.1.4 A rain channel shall be incorporated on all four (4) sides of the main door opening to prevent liquids from entering the enclosure. Cabinet door openings shall be double flanged outward on all four (4) sides to produce the rain channel.

2.1.5 The top of the cabinet shall incorporate a 1" (inch) slope toward the rear to prevent rain accumulation.

2.1.6 The cabinet shall be supplied with a natural aluminum finish. Sufficient care shall be taken in handling to ensure that scratches are minimized. All surfaces shall be cleaned of all oil residue and shall be free from weld flash.

2.1.7 All interior seams shall be sealed with RTV sealant or equivalent material.

2.1.8 All cabinets shall be supplied with two removable shelves manufactured from 5052-H32 aluminum having a minimum thickness of 0.125 inches. Shelves shall have a minimum depth of 10.5 inches.

2.1.9 One set of vertical “C” channels shall be mounted on each interior wall of the cabinet for the purpose of mounting the cabinet components. The size six (6) cabinets shall have an additional set of channels mounted on the left and right side walls. The mounting channels shall provide infinite horizontal and vertical adjustments of mounted equipment and shelves. The channels shall accommodate spring-mounted nuts or studs. All mounting rails shall extend to within four (4) inches of the top and bottom of the cabinets. Rivets or pop-rivets of any kinds shall not be used in the cabinet or on the main panel. No bolts or screws shall protrude through the outside walls, top, bottom, or sides of the cabinet.

2.1.10 All cabinets shall be supplied with four (4) anchor bolts to properly secure the cabinet to its base.

2.1.10.1 Bolt patterns for the size five (5) cabinets shall be as shown in Figure 7.8.3.1 of the NEMA Standards, except there shall be two (2) additional mounting slots centered in the right and left side mounting flanges.

2.1.10.2 Bolt patterns for the size six (6) cabinets shall be as shown in Figure 7.8.3.2 of the NEMA Standards.

2.1.11 The cabinet shall have an open bottom that is surrounded by a heavy duty attachment flange (lip) made of double thickness material having a minimum thickness of 0.25 inches. Around the opening, the flange shall be three (3) inches wide, plus or minus one-half (½) inch. One inch slots shall be provided in all four corners for the anchor bolts or for securing the removable bottom panel of pole mounted cabinets.

2.1.12 All size five (5) cabinets shall be provided with stiffener plates made from 0.250 inch aluminum and tack welded to the top and bottom of the rear wall to allow pole mounting.

2.1.13 All size five (5) cabinets shall be fitted with a removable 0.250-inch thick bottom panel. The bottom panel of the cabinet shall be removable to allow the cabinet to be used as a base mount type if desired. A closed cell neoprene pad having a minimum thickness of 0.5 inches shall be installed between the cabinet and the bottom panel to prevent dust and moisture from entering the cabinet. The pad shall cover the entire cabinet opening to the outside edges of the cabinet.

2.1.14 Each cabinet shall be of sufficient size to accommodate all equipment without crowding. Each piece of equipment shall have its own space on a shelf. It shall not be necessary to move any other piece of equipment in order to service any component or unit. All auxiliary equipment shall be accessible for removal or installation without moving any other component in the cabinet. The minimum cabinet sizes are as follows:

Size 5 Cabinets - 50" H x 36" W x 17" D

## Size 6 Cabinets - 55" H x 44" W x 26" D

2.1.15 For reference, size 5 cabinets shall be pole-mounted cabinets. All pole-mounting hardware shall be supplied and shall be made of rustproof material. Top and bottom mounting brackets shall be supplied and shall permit the use of two (2) bands on each bracket (for secure mounting). Mounting brackets shall allow the use of a minimum of 3/4 - inch wide bands.

2.1.16 All size 5 cabinets shall be supplied with an Extender Base that is at least 15 inches in height. The extender base shall be made of 5052-H32 aluminum having a minimum thickness of 0.125 inches. The top and bottom opening shall match the bottom of the cabinet and shall have the same mounting bolt pattern as the cabinet. Extender base, mounting bolts, and gasket shall be supplied as one unit and separate from the size 5 cabinets.

2.1.17 All cabinets shall be equipped with a three(3) position alarm and light switch bracket. This bracket shall be attached to the top right corner of the door opening.

2.1.18 All size six (6) cabinets shall have a rear door similar to the main door excluding the police panel.

## 2.2 DOORS and HARDWARE

2.2.1 A stiffener plate shall be welded across the inside of the main door to prevent flexing. The stiffener plate shall not cover or prevent access to any door component(s).

2.2.2 The lower section of the cabinet door shall be equipped with a louvered air entrance. The air inlet shall be large enough to allow sufficient airflow per the rated fan capacity. Louvers must satisfy the NEMA rod entry test for 3R ventilated enclosures. A removable, fiberglass air filter shall be supplied with each cabinet. The filter shall be secured to the air entrance in such fashion as to maintain close contact, at all times, to the louvered air entrance. The filter retainer shall be a slide fit design with no bolts or springs utilized to secure the filter to the door opening.

2.2.3 The roof of the cabinet shall incorporate an exhaust plenum with a vent screen. Perforations in the vent screen shall not exceed 0.125 inches in diameter.

2.2.4 The main and rear doors shall be equipped with a three-point draw roller type latching mechanism. The push rods shall be turned edgewise at the outward supports and shall be 0.250 inch by 0.750 inch aluminum, minimum. The push rods shall maintain a uniform thickness along their entire length. A reduction in thickness at the center latch point shall not be accepted.

2.2.4.1 Rollers shall have a minimum diameter of 0.875 inches and will be made of nylon. The center catch shall be fabricated from 0.187 aluminum, minimum.

2.2.5 The handle on the both doors shall utilize a stainless steel shank of 5/8 inches

minimum diameter. The handle shall include a hasp for the attachment of an optional padlock. The cabinet door handle shall rotate counter-clockwise to open. The handle shall not extend beyond the perimeter of the main door at any time. The lock assembly shall be positioned so that the handle shall not cause any interference with the key when opening the cabinet door. When the door is closed and latched, the door shall automatically lock. It shall not be necessary to use a key in order to lock the door.

2.2.6 The main cabinet doors and police panel door hinges shall be a one-piece, continuous piano hinge. The hinge shall be located on the right side of the door when viewed from the front. The hinge and pin shall run the entire length of the door. All cabinet and police panel door hinge pins shall be capped at the top and bottom by weld to render the pin tamper proof.

2.2.6.1 The hinges shall be made of 0.093-inch thick aluminum and shall have a 3-inch open width with a 0.250-inch diameter stainless steel hinge pin. Door hinge shall be bolted to the cabinet and door with a 1/4-20 stainless steel carriage bolts and ny-lock nuts.

2.2.7 The main and rear doors shall be equipped with a mechanism to automatically hold the door open at approximately 90, 125, and 150 degrees, in windy conditions. The mechanism shall be pinned to prevent separation from the track. The door holding track shall be reinforced and tack welded along its top and bottom. Manual placement of the mechanism shall not be required by the field technician.

2.2.8 The main and rear doors shall be equipped with a Corbin tumbler lock number 4R38526 or approved equivalent. The lock shall be of brass construction, and shall have a swing-away cover. Two Virginia No. 2 keys shall be supplied and attached to each cabinet door upon shipment

2.2.7 The Rear cabinet door shall only be installed on size six (6) cabinets.

## **2.3 POLICE SWITCH COMPARTMENT**

2.3.1 A switch compartment shall be provided on the main door.

2.3.2 The opening for the switch compartment door shall be double flanged on all four sides and shall incorporate a rain channel on all four sides.

2.3.3 The police door-in-door shall be provided with a treasury type lock Corbin No. R357SGS series, or approved equivalent. The lock shall be of brass construction, and shall have a swing away cover. All cabinets shall have a police panel door that utilizes a slam shut type latching mechanism. Two 3 1/2" police keys shall be supplied and attached to each cabinet door upon shipment.

2.3.4 The door hinge for the switch compartment shall be 0.063-inch stainless steel with a 0.120-inch diameter stainless steel hinge pin.

### **3.0 TYPE 1 AND TYPE 2 TERMINALS AND FACILITIES MAIN PANEL DESIGN**

3.1 The main panel shall be constructed from 5052-H32 brushed aluminum of 0.090 inches minimum thickness and formed so as to minimize any flexing when plug-in components are installed.

3.2 All main panels shall be hinged at the bottom to allow easy access to all wiring on the rear of the panel. The cabinet back panel conductors shall be arranged to allow the top of the panel to be tilted out through the main cabinet door. Removal or disconnecting of any conductors or equipment mounted on the side walls of the cabinet shall not be necessary.

3.3 The main panels shall be fully wired in the following configurations:

| Type 1 Configuration 3 - Twelve load switch sockets, (eight vehicle sockets, two pedestrian sockets, and two overlaps assigned as overlap A and B), six flash transfer relay sockets, one flasher socket, and two main panel BIU rack positions. This configuration shall be installed into all size five (5) cabinets.

| Type 1 Configuration 4 - Sixteen load switch sockets, (eight vehicle sockets, four pedestrian sockets and four overlap sockets) eight flash transfer relay sockets, one flasher socket and two main panel BIU rack positions. This configuration shall be installed into all size six (6) cabinets.

3.4 Reference designators for all load switch and flash transfer relay sockets shall be silk-screen labeled on the front and rear of the main panel.

| Up to eight load switch sockets may be positioned horizontally or stacked in two rows on the main panel. If more than eight load switch sockets are required, they may be mounted in two horizontal rows. All load switch sockets, flasher sockets, and flash transfer sockets shall be mounted on the main panel only.

3.5 A bracket extending at least half the length of the load switch shall support all load switches. This support must be rigidly mounted to the main panel and be removable for maintenance by using hand tools only.

3.6 In Type 1 Main Panels, rack style mounting shall be provided to accommodate the required BIU's per the configuration listed in section 3.3 above. A dual - row, 64 - pin female din 41612 Type B connector shall be provided for each BIU rack position. Card guides shall be provided for both edges of the BIU. Terminal and facilities BIU mounting shall be an integral part of the main panel. Detector rack BIU mounting shall be an integral part of the detector rack.

3.6.1 In Type 1 Main Panels all BIU rack connectors shall have pre-wired address pins corresponding to the requirements of the TS 2 Specification. The address



pins shall control the BIU mode of operation. BIU's shall be capable of being interchanged with no additional programming.

3.7 All twelve position main panels shall have all field wires terminated on one row of horizontally mounted terminal blocks. All sixteen position main panels shall have all field wires terminated within one or two rows of horizontally mounted terminal blocks. If two rows are used, the upper row shall be wired for the pedestrian and overlap field terminations. The lower row shall be reserved for phase one through eight vehicle field terminations.

3.7.1 A loading resistor having a nominal value of 2,000 ohms - 11 watt, shall be installed between the ground buss and each green and yellow signal output field connection terminal for vehicle phases 1,3,5,7. and all overlaps.

3.7.1 B Transient protection devices. Surge protection of load switch signal outputs - a metal oxide varistor shall be installed between a ground buss and each signal output field connection terminal for all vehicle, overlap, and pedestrian movements. The varistor shall have a 150 volt r.m.s. input rating and an energy rating of eighty joules. The varistor shall be a GE type V150LA20A or equal.

3.8 All field output circuits shall be terminated on a non-fused terminal block with a minimum rating of 20 amps.

3.9 All Type 2 Main panels shall provide means of programming the controller phase outputs to load switch inputs with only the use of a screwdriver.

3.10 Permanent alphanumeric labels shall identify all field input / output (I/O) terminals. All labels shall use standard nomenclature per the NEMA TS 2 Specification.

3.10.1 Type 1 Main Panels shall have as a minimum, terminals provided for the input / output signals listed in table 5.3.1 - 2 for terminal facilities configurations 3 and 4 of NEMA TS 2 - 1992 Standard.

3.10.2 Type 2 Main Panels shall have as a minimum, sufficient screw terminals shall be provided for the termination of the input / output functions described in section 5.3.2 of the TS 2 - 1992 Standard.

3.11 All flash color selection shall be accomplished at the field terminals with the use of a screwdriver only. It shall also be possible to select, through terminal connections, which of the two flasher circuits is connected to each phase. All cabinets shall be wired so that flasher circuit output #1 shall be wired for phases 1,2,5, and 6, overlap A and overlap B. Flasher output circuit #2 shall be wired for phases 3,4,7, and 8, overlap C and overlap D. All cabinets shall be pre-wired to flash phases 2 and 6 yellow and all other phases and overlaps red.

3.12 Field terminal blocks shall be wired to use a minimum of three positions per vehicle, pedestrian and overlap phase. All bolts and screws used for electrical



connections shall be stainless steel. All equipment grounds shall run directly and independently to the Earth ground bus bar. All neutral conductors shall be carried throughout the cabinet without a break, splice, or fuse unless otherwise noted. A separate insulated Neutral Bus Bar with a minimum of twenty positions or terminal sized to allow three #12 wires per terminal shall be mounted to the main panel. A separate insulated Earth Ground Bus Bar with a minimum of ten positions or terminals sized to allow three #12 wires per terminal shall be mounted to the main panel. The mounting of each bus bar shall be ridged with minimal flexing at all points on the bar.

3.12.1 Signal output terminals shall be screw type, Compression type termination shall not be acceptable.

3.13 The main panel shall contain a flasher capable of operating a 15-amp, 2-pole, NEMA solid state flasher. A bracket that extends at least half its length shall support the flasher.

3.14 As a minimum, a RC network shall be wired in parallel with each group of three flash-transfer relay coils. A RC network shall be installed on all other relay coils.

3.15 All logic-level, NEMA Controller Unit and Malfunction Management Unit input and output terminations on the main panel shall be permanently labeled. Cabinet prints shall identify the function of each terminal position. All screws and terminals shall be made of stainless steel.

3.16 Type 1 Main Panel terminal blocks for DC signal interfacing shall have a number 6-32 x 7/32-inch screw as a minimum. All screws and terminals shall be made of stainless steel. Functions to be terminated shall be as specified in the listing of input / output Terminals in the NEMA TS 2 - 1992 Standard document (Section 5).

3.17 Type 2 Main Panels shall have as a minimum, terminal blocks shall be provided at the top of the main panel to provide access to the Controller Unit's programmable and non-programmable inputs and outputs. Terminal blocks for DC signal interfacing shall have a # 6-32 x 7/32-inch screw minimum. All screws and terminals shall be made of stainless steel.

3.18 All main panel wiring shall conform to the following wire size and color:

Green or Walk load switch output	brown wire	16 AWG
Yellow load switch output	yellow wire	16 AWG
Red/Don't Walk load switch output	red wire	16 AWG
MMU (other than AC power)	optional color	22 AWG
Controller Unit Input / Output	blue wire	22 AWG
AC Line (power panel to main panel)	black wire	***

AC Line (main panel)	black wire	***
AC Neutral (power panel to main panel)	white wire	***
AC Neutral (main panel)	white wire	***
Earth ground (power panel)	green wire	***
Logic ground	gray wire	22 AWG

\*\*\* Gauge varies with power panel / main panel set.  
Unless otherwise noted, wire size shall comply with NEMA Standard  
TS 2 - 1992 Table 5.2.5 - 1.

3.19 All wiring, 14 AWG and smaller, shall conform to MIL-W-16878/1, type B/N, 600V, 19-strand tinned copper. The wire shall have a minimum of 0.010 inches thick PVC insulation with clear nylon jacket and rated to 105 degrees Celsius. All 12 AWG and larger wire shall have UL listed THHN / THWN 90 degrees Celsius, 600 V, 0.020 inches thick PVC insulation and clear nylon jacketed.

3.20 All Controller Unit and Malfunction Management Unit cables shall be of sufficient length to allow the units to be placed on either shelf or the outside top of the cabinet in the operating mode. Connecting cables shall be sleeved in a braided nylon mesh. The use of exposed tie-wraps or interwoven cables are unacceptable.

3.21 All cabinet configurations shall be provided with enough RS-485 Port 1 communication cables to allow full capabilities of that cabinet. Each communication cable connector shall be a 15-pin metal shell D sub-miniature type. The cable shall be a shielded cable suitable for RS-485 communications.

3.22 All main panels shall be pre-wired for a Type-16 Malfunction Management Unit.

3.23 All wiring shall be neat in appearance. All cabinet wiring shall be continuous from its point of origin to its termination point. Butt type connections/splices are not acceptable. All cabinet back panel conductors shall be soldered, at its destination point as specified. Printed circuit boards, except for BIU rack and pedestrian isolation boards, shall not be used on main panels.

3.24 All connecting cables and wire runs shall be secured by mechanical clamps. Stick-on type clamps are not acceptable.

3.25 The grounding system in the cabinet shall be divided into three separate circuits (AC Neutral, Earth Ground and Logic Ground). These ground circuits shall be connected together at a single point as outlined in the NEMA TS 2 Standard.

3.26 All pedestrian push-button inputs from the field to the controller shall be opto-isolated and operate at 12 VAC.

3.27 All wire (size 16 AWG or smaller) at solder joints shall be hooked or looped around the eyelet or terminal prior to soldering to ensure circuit integrity. Lap joint soldering is not acceptable. All connections to other than solder connections shall be made with insulated spade connectors.

3.28 All exposed or protruding 120 VAC terminals or screws shall be covered or shielded to prevent shock hazard to personnel.

3.29 All conductors used in cabinet wiring shall be identified by the use of a pre-printed sleeve or wire marker clearly visible and before attachment to a lug, terminal or making a connection. All unused wires shall be terminated and labeled at a terminal strip. The tying back of unused wires is not acceptable. All wiring harnesses shall be encased in a continuous mesh sheath. The use of cable ties to arrange wiring harnesses is not acceptable. All conductors and wiring harnesses shall be routed and arranged to allow easy access to all equipment and terminals.

3.30 The main panel shall incorporate a relay to remove +24 VDC from the common side of the load switches when the intersection is placed into flash. The main panel shall incorporate a relay or interlock that will initiate stop time to the controller on ring 1 and ring 2 whenever the intersection goes into a “conflict flash” condition. The relays mentioned above shall be Potter & Brumfield, Model KRAP-N11AG-120V or approved equal.

#### **4.0 POWER PANEL DESIGN AND CONSTRUCTION**

4.1 The power panel shall consist of a separate, fully enclosed module, securely fastened to the lower right side wall of the cabinet. The power panel shall be wired to provide the necessary power to the cabinet, controller, Malfunction Management Unit, cabinet power supply and auxiliary equipment. It shall be manufactured from 0.090 inch, 5052-H32 aluminum with removable plastic front cover. Standoffs for the plastic cover shall be insulated. Means shall be provided to allow access to the main and auxiliary breakers without removing the front cover. All components of the power panel shall be accessible for ease of replacement without removing any other components or equipment. Adequate space between components shall be provided for the tightening of all terminals. One blank terminal position shall be between the AC+ and AC- terminals.

4.2 The power panel shall be identical for all cabinets except for breaker sizing. The power panel shall house the following components:

All circuit breakers shall be single pole Square-D or approved equivalent and supplied in a Q.O.U. mounting. The main breaker shall be labeled “MAIN.” A 50 AMP circuit breaker shall be installed in both size 5 and 6 cabinets. This breaker shall supply power to the controller, MMU, signals, cabinet power supply, isolation transformer, and separate breakers used to split the power feed and auxiliary panels. Breakers shall be thermal magnetic type, UL listed for HACR service, with a minimum of 10,000 amp interrupting capacity. All breakers shall be installed in a vertical orientation.

One (1) single pole fifteen amp (15-amp) breaker labeled “Auxiliary” shall supply power to the fans, lights and GFCI outlet. The power feed for this breaker shall not be fed from the load side of the main breaker but will be fed from the main feed side.

One (1) single pole fifteen amp (15-amp) breaker shall supply power to a SOLA CVS SERIES CONSTANT VOLTAGE TRANSFORMER TYPE 23-23-125-8 which shall be called (isolation transformer) throughout these specifications. No substitution shall be allowed. The isolation transformer shall be mounted inside the cabinet on the right side of the cabinet wall above the power panel. This breaker shall be labeled “ELECTRONIC EQUIPMENT”. The power feed for this breaker shall be from the “line out equipment” side of the power line surge protector (EDCO Surrestor SHA-1210). No substitute shall be allowed. The “neutral equipment” side of the same SHA-1210 shall be wired to the neutral input of the isolation transformer. The load side of the isolation transformer both AC+ and AC- (neutral) shall power the Controller Unit, Malfunction Management Unit, Power Supply, and the Lau Panel and no other equipment.

A 60-amp, 125 VAC radio interference line filter.

A normally open, 60-amp, solid state contactor with L.E.D. indicator shall be supplied.

One (1) Insulated AC Neutral bus bar with a minimum of twelve (12) positions capable of accepting three #12 wires per position.

One (1) Earth ground bus bar (chassis ground) with a minimum of seven (7) positions large enough to accept three #12 wires per position.

Convenience outlet wired as a standard AC receptacle. No GFCI protection allowed at this outlet.

A six (6) position (minimum) terminal block shall be provided for the termination of the AC+ Feed to the cabinet, the AC-Neutral Feed to the cabinet and the Earth Ground or (Chassis Ground) to the cabinet. A single hole compression lug capable of accepting as a minimum #10 AWG to a maximum #4 AWG wire shall be provided for each termination. The compression lug shall be a screwdriver slot type rated for copper wire. Four (4) terminal lugs shall be provided for each cabinet. These lugs shall be protected with a transparent cover. Means shall be provided for installing or tighten the cabinet service feeds without removing the protective cover.

## **5.0 Measurement and Payment**

**TS-2 Controller Cabinets** will be measured in units of each and will be paid for at the contract unit price per each cabinet furnished and installed. Cabinets shall furnished to include all auxiliary equipment as listed in sections 703.06 and 703.07 below and shall include all necessary mounting hardware and all labor required for installation of the cabinet.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
TS-2 Controller Cabinet.....	Each

## **SECTION 703.06 - TS-2 CONTROLLER CABINET AUXILIARY EQUIPMENT**

*(Last revised: 15 March 2011)*

### **1.0 AUXILIARY CABINET EQUIPMENT**

1.1 The cabinet shall be provided with two thermostatically controlled (adjustable between 80 - 150 degrees Fahrenheit) ventilation fans in the top of the cabinet plenum. Each fan shall be a ball bearing type fan and shall be capable of drawing a minimum of 100 cubic feet of air per minute. The fans shall have a minimum design life of one hundred thousand (100,000) hours. Each fan shall have its own thermostat, fan and thermostat shall be rated for one hundred and twenty-five percent (125%) of capacity. Each fan and thermostat assemble shall be fused. All fuse holders shall be of the encased type.

1.2 A fluorescent lighting fixture shall be mounted on the inside top of the cabinet near the front edge. The fixture shall be rated to accommodate a F15T8 lamp operated from a normal power factor UL or ETL listed ballast. The fluorescent lighting fixture shall be rapid start type and cold weather rated. The lamp shall be wired to a door-activated switch mounted near the top of the door. If the main door is closed the lamp will be off. The lamp shall be protected by a removable plastic tube, to prevent shattering if hit.

1.3 A rigid slide-out document tray shall be mounted below the bottom shelf. The tray shall be of sufficient size and strength to hold a complete set of cabinet wiring drawings, intersection diagrams, equipment and programming manuals for all equipment and modules applicable to each cabinet. The tray shall operate by sliding out, then opening a hinged cover to remove documents. After removing the documents and closing the cover, the tray shall serve as a suitable resting place for documents or a laptop computer. See diagram concerning the design and construction of this tray. As a reference, use Hennesy Products, Inc. Part No. 541.

1.4 Two (2) sets of complete and accurate cabinet wiring drawings shall be supplied with each cabinet.

1.5 One (1) set of manuals for the Controller Unit, Malfunction Management Unit, Power Supply, Detector Rack, Vehicle Detector Amplifier modules shall be supplied with each cabinet.

1.6 Two complete sets of schematics, logic drawings, and assembly drawings for each type of electronic unit supplied (i.e., Controller Unit, MMU, Power Supply, Load Switches, and Flashers). This documentation shall be provided prior to the delivery of any equipment and shall be a one-time shipment.

1.7 Two complete copies of component, hardware, and manufacturer indices of every item, unit, assemble and component within a cabinet, shall be included as part of these specifications. A complete listing of replacement parts and costs shall be included.

## **2.0 VEHICLE DETECTION**

2.1 A vehicle detector amplifier rack(s) shall be provided in each cabinet. Detector racks for both sizes of cabinets shall have the following configuration:

2.1.1 Shall support 8 channels of loop detection, and one BIU contained within one (1) Detector Rack.

2.1.2 Both detector configurations shall accommodate an Opticom #754 Phase selector.

2.2 Each cabinet shall contain detector interface panels for the purpose of connecting field loops and vehicle detector amplifiers. These detector panels shall be hard wired. No printed circuit type will be allowed.

2.3 One 8-position interface panel shall be provided for each 8-channel detector rack per cabinet. The interface panel(s) shall be attached to the lower left side wall of the cabinet.

2.4 Each interface panel shall allow for the connection of a minimum of sixteen independent field loops. A ground bus terminal shall be provided between each loop pair terminal to provide a termination for the loop lead-in ground wire. Detector Terminals shall be screw type, Compression type termination shall not be acceptable.

2.5 All Interface panels shall be provided with lightning protective devices for all channels. All interface panels shall be provided with EDCO SRA-6 or approved equal lightning protective devices for all available inputs.

2.6 A cable consisting of 20 AWG twisted pair wires shall be provided to enable connection to and from the panel to a detector rack.

2.7 All termination points shall be identified by a unique number and silk-screened on the panel.

2.8 Each detector rack shall contain four (4) channel vehicle detectors. All detectors shall be interchangeable from detector rack to detector rack and from slot to slot without modification.

2.9 Each detector rack shall be powered by the cabinet power supply.

## **3.0 CABINET AUXILIARY SWITCH PANEL AND POLICE PANEL**

3.1 An auxiliary switch panel shall be mounted on the inside of the main door. The auxiliary switch panel shall provide as a minimum the following:

- AUTO/FLASH SWITCH. When in the FLASH position, power shall be

maintained to the controller and the intersection shall be placed in flash. The controller shall not be stop timed when in flash. When the switch is moved from FLASH position to the AUTO position, an external start signal shall be applied to the controller. This external start signal will force the controller to initiate the start up sequence when exiting flash.

- STOP TIME ON/OFF SWITCH. STOP TIME ON position, when applied, the controller shall be stop timed in the current interval.
- CONTROL EQUIPMENT POWER ON/OFF SWITCH. This switch shall control the Controller Unit, Malfunction Management Unit and Power Supply AC power. When in the ON position, the AC power shall be applied.
- Two (2) spare switch positions holds shall be provided and plugged for future use.

3.2 The police door switch panel shall contain the following:

- AUTO/FLASH SWITCH. When in the FLASH position, power shall be maintained to the controller and stop time shall be applied. The intersection shall be placed in flash. When the switch is moved from FLASH position to the AUTO position, an external start signal shall be applied to the controller. This will force the controller to initiate the start up sequence when exiting flash.
- AUTO/MANUAL SWITCH. Cabinet wiring shall include an AUTO/MANUAL toggle switch and a six (6') foot hand cord. The switch shall be in the top position in the AUTO mode. Hand cord shall be hardwired and not removable with the application of a plug in jack. Hand cord must be able to be stored with in the police panel compartment with police panel door completely secured and locked.
- SIGNALS ON / SIGNALS OFF SWITCH. This switch will remove all voltages to the signal heads and not put stop time to the controller.

3.3 All toggle type switches shall be heavy duty and rated 15 amps, at a minimum. Single or double-pole switches may be provided, as required.

3.4 Any exposed terminals or switch solder points shall be covered with a non-flexible shield to prevent accidental contact.

3.5 All switch functions shall be permanently and clearly labeled.

3.6 All wire routed to the police panel and auxiliary panel shall be adequately protected against damage from repetitive opening and closing of the main door. No modular connectors will be allowed in the cabinet except for the detector panel interface. All other cabinet wiring shall be "hard wired" point to point.



## **4.0     AUXILIARY DEVICES**

### **4.1     LOAD SWITCHES**

4.1.1 Load switches shall be solid state and shall conform to the requirements of Section 6.2 of the NEMA TS 2 Standard or as specified.

4.1.2 Signal load switches shall have a minimum load current rating of 10 amperes at 120 VAC for incandescent lamp load.

4.1.3 The front of the load switch shall embody a minimum of six LED indicators. Three indicators to show the input to the load switch and three indicators to show the output of the load switch.

4.1.4 Load switches shall be dedicated per phase. The use of load switches for other partial phases is not acceptable.

4.1.5 The full complement of load switches shall be supplied with each cabinet to allow for maximum phase utilization for which the cabinet is designed.

### **4.2     FLASHERS**

4.2.1 The flasher shall be solid state design and shall conform to the requirements of section 6.3 of the NEMA TS 2 Standard.

4.2.2 Flashing of field circuits for the purpose of intersection flash shall be accomplished by separate flasher.

4.2.3 The flasher shall be rated at 15 amperes, double pole with a nominal flash rate of 60 FPM.

### **4.3     FLASH TRANSFER RELAYS**

4.3.1 All flash transfer relays shall meet the requirements of Section 6.4 of the NEMA TS 2 Standard or as specified. Contacts shall be capable of making, breaking, with a contact current rating of twenty (20) amperes.

4.3.2 The coil of the flash transfer relay must be de-energized for flash operation.

4.3.3 The full complement of flash transfer relays shall be supplied with each cabinet to allow for maximum phase utilization for which the cabinet is designed.

### **4.4     MALFUNCTION MANAGEMENT UNITS**

4.4.1 Each cabinet assembly shall be supplied with one Malfunction Management Unit (MMU) as defined by the requirements of Section 4 of the NEMA TS 2-1992 Standard.

4.4.2 Malfunction Management Units shall be a Type 16.

#### 4.5 BUS INTERFACE UNITS

4.5.1 All Bus Interface Units (BIU's) shall meet the requirements of Section 8 of the NEMA TS 2-1992 Standard.

4.5.2 The full complement of Bus Interface Units shall be supplied with each cabinet to allow for maximum phase and function utilization for which the cabinet is designed.

4.5.3 Each Bus Interface Unit shall include power on, transmit, and valid data indicators. All indicators shall be LED's.

#### 4.6 CABINET POWER SUPPLY

4.6.1 The cabinet power supply shall meet the requirements of Section 5.3.5 of the NEMA TS 2 Standard.

4.6.2 The cabinet power supply shall provide LED indicators for the line frequency, 12 VDC, 12 VAC, and 24 VDC outputs.

4.6.3 The cabinet power supply shall provide (on the front panel) jack plugs for access to the + 24 VDC for test purposes.

4.6.4 One (1) power supply shall be supplied with each cabinet assembly.

#### 4.7 VEHICLE DETECTION SYSTEM

4.7.1 All detector racks shall contain a full complement of four (4) channel detectors detector amplifier that are compatible with conventional loops.

#### 4.8 SPLICE TRAYS

4.8.1 Each cabinet shall house a fiber optic splice tray.

#### 4.9 CONTROLLER ADAPTER HARNESS

4.9.1 Cabinets shall include an adapter harness in order to energize a TS2 type 2 controller.

#### 4.10 ETHERNET SWITCH

4.10.1 Cabinets shall include a field hardened Ethernet switch. Switch shall be a Cisco IE-3000-8TC or approved equal and shall include two (2) GBIC modules rated for 20 km or greater. Two (2) additional GBIC modules shall be provided for integration into the Traffic Management Center.

## **5.0 MEASUREMENT AND PAYMENT**

No separate measurement and payment will be made for TS-2 Controller Cabinet Auxiliary Equipment. TS-2 Controller Cabinet Auxiliary Equipment shall be paid for under Section 703.05.

## **SECTION 703.07 - TS-2 1992 CABINET POWER SUPPLY**

*(Last revised: 23 February 2003)*

### **1.0 INTRODUCTION**

The TS 2 cabinet power supply shall provide regulated DC power, unregulated AC power and a line frequency reference for the TS 2-detector rack, Bus Interface Units, load switches, and other auxiliary equipment. As a minimum, the power supply shall meet all applicable requirements of the NEMA TS2-1992 Standard. Where differences occur, this specification shall govern.

### **2.0 ENCLOSURE**

2.1 The power supply shall be compact so as to fit in limited cabinet space. It shall be capable of being mounted on a shelf. In addition, the power supply shall be capable of being wall mounted using key-hole slots on the rear of the power enclosure.

2.2 The power supply shall be constructed of sheet aluminum and shall be finished with an attractive and durable protective coating.

### **3.0 PRINTED CIRCUIT ASSEMBLIES**

#### **3.1 MATERIALS**

All printed circuit boards shall be made from NEMA FR.-4 glass epoxy or equivalent (see NEMA LI-1989 Industrial Laminated Thermosetting Products).

#### **3.2 DESIGN**

All printed circuit boards shall meet the following requirements to enhance reliability:

- All plated-through holes and exposed circuit traces shall be plated with solder.
- Both sides of the printed circuit board shall be covered with a solder mask material.
- The circuit reference designation for all components and the polarity of all capacitors and diodes shall be clearly marked adjacent to the component. Pin 1 for all integrated circuit packages shall be designated on both sides of all printed circuit boards.

- All electrical mating surfaces shall be gold plated.
- All printed circuit board assemblies shall be coated on both sides with a clear moisture-proof and fungus-proof sealant.

#### **4.0 ENVIRONMENTAL REQUIREMENTS**

The power supply shall perform its specified functions when the ambient temperature and humidity are within the specified limits defined in Section 2 of NEMA TS2-1992 Standard.

#### **5.0 ELECTRICAL REQUIREMENTS**

As a minimum, the electrical requirements shall follow those described in Section 5 of the NEMA TS2-1992 Standard, plus all other applicable sections.

#### **6.0 INPUT / OUTPUT CONNECTIONS**

##### **6.1 PIN CONNECTIONS**

The power supply connector shall be located on the front of the unit, have a metallic shell which is connected to the chassis ground internally and mate with an MS3106 ( )-18 - 1SW cable connector, or equivalent.

Connector pin terminations shall be as follows:

PIN	FUNCTION
A	AC Neutral
B	Line Frequency Reference
C	AC Line
D	+ 12 VDC
E	+ 24 VDC
F	Reserved
G	Logic Ground
H	Earth Ground
I	12 VAC

J	Reserved
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## **7.0 INDICATORS AND TEST POINTS**

### **7.1 INDICATORS**

The power supply shall include LED indicators to display the status of all outputs.

### **7.2 TEST POINTS**

The power supply shall include banana jack style test points for the following signals:

- + 24 VDC
- Logic Ground

## **8.0 TEST**

The functions of each power supply shall be thoroughly tested to insure compliance with the requirements of this specification. Upon completion of initial tests, each power supply shall be burned in at a minimum of 74 degrees C for 48 hours. After burn-in, the functions of the power supply shall be re-tested to insure satisfactory operation.

## **9.0 MEASUREMENT AND PAYMENT**

No separate measurement and payment will be made for TS-2 1992 Cabinet Power Supply. TS-2 1992 Cabinet Power Supply shall be paid for under Section 703.05.

## **SECTION 703.08 - MALFUNCTION MANAGEMENT UNIT**

### **1.0 INTRODUCTION**

This specification sets forth the minimum requirements for a shelf-mountable, sixteen channel, solid-state Malfunction Management Unit (MMU). The MMU shall meet, as a minimum, all applicable sections of the NEMA Standards Publication No. TS 2-1992. An independent testing laboratory shall verify that the MMU will perform all its defined functions under the conditions set forth in Section 2 of the NEMA STANDARD (Environmental Standards and Test Procedures). Where differences occur, this specification shall govern. The MMU shall be compatible with Naztec Model 980 traffic signal controllers and the City's existing Naztec central system software, MMU Model 516L-E LCD, or an approved equivalent.

### **2.0 HARDWARE**

#### **2.1 ENCLOSURE**

2.1.1 The MMU shall be compact so as to fit in limited cabinet space. It shall be installed on a shelf that is at least 10" deep. Overall dimensions, including mating connectors and harness, shall not exceed 10.5" x 4.5 x 11" (H x W x D).

2.1.2 The enclosure shall be constructed of sheet aluminum with a minimum thickness of 0.062", and shall be finished with an attractive and durable protective coating. Model, serial number, and program information shall be permanently displayed on the rear surface.

#### **2.2 ELECTRONICS**

2.2.1 A microprocessor shall be used for all timing and control functions. Continuing operation of the microprocessor shall be verified by an independent monitor circuit, which shall force the OUTPUT RELAY to the de-energized "fault" state and indicate an error message if a pulse is not received from the microprocessor within a defined period.

2.2.2 In the interest of serviceability all I.C.'s shall be installed in sockets.

2.2.3 A built-in high-efficiency power supply shall generate all required internal voltages. All voltages shall be regulated and shall be monitored with control signals. Failure of the internal power supply to provide proper operating voltages shall force the OUTPUT RELAY to the de-energized "fault" state and indicate an error message. A front panel mounted fuse shall be provided for the 120 VAC input.

2.2.4 User-programmed configuration settings shall be stored in an electrically erasable programmable read-only memory (EEPROM) or via front panel DIP switches. Designs using a battery to maintain configuration data shall not be acceptable.

2.2.5 All 120 VAC field terminal inputs shall provide an input impedance of at least 150K ohms and be terminated with a resistor having a power dissipation rating of 0.5 Watts or greater. A separate precision voltage-comparing device shall sense each 120 VAC field terminal input.

2.2.6 All electrical components used in the MMU shall be rated by the component manufacturer to operate over the full NEMA temperature range of -30 degrees C to +74 degrees C.

2.2.7 All printed circuit boards shall meet the requirements of the NEMA Standard plus the following requirements to enhance reliability:

- All plated-through holes and exposed circuit traces shall be plated with solder.
- Both sides of the printed circuit board shall be covered with a solder mask material.
- The circuit reference designation for all components and the polarity of all capacitors and diodes shall be clearly marked adjacent to the component. Pin #1 for all integrated circuit packages shall be designated on both sides of all printed circuit boards.
- All electrical mating surfaces shall be gold plated.
- All printed circuit board assemblies shall be coated on both sides with a clear moisture-proof and fungus-proof sealant.

## **2.3 FRONT PANEL and CONNECTORS**

2.3.1 All displays, configuration switches, and connectors shall be mounted on the front panel of the MMU. All MMU configuration inputs beyond those required by the NEMA Standard shall be provided by front panel mounted DIP switches and shall be clearly labeled. Configuration DIP switches shall be provided for the following functions:

- Field Check / Dual Enables 1 - 16
- Green / Yellow - Dual Indication Enable
- BND Test Disable
- External Watchdog Enable

2.3.2 The connectors on the MMU shall have a metallic shell and be attached to the chassis internally. They shall be manufactured to meet MIL-C 26482 specifications. The connectors shall be mounted on the front of the unit in accordance with the following: Connector A shall mate with a MS 3116 22-55 SZ, and Connector B shall mate with a MS 3116 16-26 S.



2.3.2.1 In the interest of reliability and reparability, printed circuit board mounted MS connectors shall not be acceptable. Internal MS harness wire shall be a minimum of AWG #22, 19 strand.

2.3.3 All indicator lights shall be water clear, T-1 package, Red Super Bright type LED's. Indicators shall be provided for the following items:

- Channel Status 1 - 16
- Conflict
- Red Fail
- CVM / External Watchdog
- 24V -2
- 24V -1
- Clearance Fail
- Port 1 Fail
- Diagnostic / Program Card
- Dual Indication
- Type 12 mode
- Power
- Port 1 Receive
- Port 2 Transmit

## **2.4 OPERATING MODES**

2.4.1 The MMU shall operate in both the Type 12 mode and the Type 16 mode as required by the NEMA Standard.

## **3.0 MONITORING FUNCTIONS**

The following monitoring functions shall be provided in addition to those required by the NEMA Standard Section 4.

### **3.1 DUAL INDICATION MONITORING**

3.1.1 Sixteen switches labeled FIELD CHECK / DUAL ENABLES shall be provided on the MMU front panel to enable Dual Indication Monitoring on a per channel basis. The Dual Indication Monitor function shall provide two modes of operation, Dual Indication Fault and Green/Yellow - Dual Indication Fault.

3.1.2 When voltages on two inputs of a channel are sensed as active for more than 1000 msec, the MMU shall enter the fault mode, transfer the OUTPUT relay contacts to the FAULT position, and illuminate the DUAL INDICATION indicator. The MMU shall

remain in the fault mode until the RESET button or the EXTERNAL RESET input resets the unit. When voltages on two inputs of a channel are sensed as active for less than 700 msec, the MMU shall not transfer the OUTPUT relay contacts to the FAULT position.

3.1.3 When operating in the Type 16 mode with Port 1 communications enabled, Bit #68 (Spare Bit #2) of the Type #129 response frame shall be set to indicate a Dual Indication fault has been detected.

3.1.4 Dual Indication Monitoring shall be disabled when the RED ENABLE is not active. When operating in the Type 16 mode with Port 1 communications enabled, Dual Indication Monitoring shall also be disabled if the LOAD SWITCH FLASH bit is set to “ 1 “ in the Type #0 message from the Controller Unit.

## **3.2 DUAL INDICATION MONITOR**

3.2.1 Dual Indication monitoring shall detect simultaneous input combinations of active Green (Walk), Yellow or Red (Don't Walk) field signal inputs on the same channel. In Type 12 mode, this monitoring function detects simultaneous input combinations of active Green and Yellow, Green and Red, Yellow and Red, Walk and Yellow, or Walk and Red field inputs on the same channel.

## **3.3 FIELD CHECK MONITORING**

3.3.1 Sixteen switches labeled FIELD CHECK / DUAL ENABLES shall be provided on the MMU front panel to enable Field Check Monitoring on a per channel basis. The Field Check Monitor function shall provide two modes of operation, Field Check Fault and Field Check Status.

3.3.2 Field Check Monitoring shall be disabled when the RED ENABLE input is not active. When operating in the Type 16 mode with Port 1 Communications enable, Field Check Monitoring shall also be disabled if the LOAD SWITCH FLASH bit is set to “ ” 1 “ in the Type #0 message from the Controller Unit. The Field Check Monitoring function shall be disabled in the Type 12 mode.

## **3.4 EXTERNAL WATCHDOG MONITOR**

3.4.1 The MMU shall provide the capability to monitor an optional external logic level output from a Controller Unit or other external cabinet circuitry. If the MMU does not receive a change in state on the EXTERNAL WATCHDOG input for 1500 msec ( $\pm$  100 msec), the MMU shall enter the fault mode, transfer the OUTPUT relay contacts to the FAULT position, and illuminate the CVM / WATCHDOG indicator. The MMU shall remain in the fault mode until the RESET button or the EXTERNAL RESET input resets

the unit. An MMU Power Failure shall reset the CVM / WATCHDOG fault state of the monitor.

3.4.2 When operating in the Type 6 mode with Port 1 communications, enabled, Bit #70 (Spare Bit #4) of the Type #129 response frame shall be set to indicate an External Watchdog fault has been detected.

### **3.5 TYPE FAULT MONITOR**

3.5.1 The MMU shall verify at power-up that the Type 12 or Type 16 operating mode as determined by the TYPE SELECT input that is consistent with the mode set by the last external reset.

3.5.2 Detection of a Type Fault shall place the MMU into the fault mode, transfer the OUTPUT relay contacts to the FAULT position, illuminate the DIAGNOSTIC indicator, and flash the Type 12 indicator at a 2 Hz rate. The MMU shall remain in the fault mode until the RESET button or the EXTERNAL RESET input resets the unit. An MMU Power Failure shall reset the Type Fault State of the monitor.

### **4.0 DISPLAY FUNCTIONS**

The following display functions shall be provided in addition to those required by the NEMA Standard Section 4.

#### **4.1 YELLOW PLUS RED CLEARANCE INTERVAL DISPLAY**

4.1.1 The MMU Channel Status display shall indicate with a steadily illuminated LED indicator, those channels which had the short Yellow plus Red interval (i.e., those channels which did not meet the minimum Yellow Change plus Red Clearance Interval). The conflicting channel(s) which was sensed active Green causing the Minimum Yellow Change plus Red Clearance Fault shall also be indicated with a single pulsed LED indicator.

#### **4.2 FIELD CHECK STATUS DISPLAY**

4.2.1 The FIELD CHECK FAIL indicator shall illuminate when a Field Check Fault is detected. The Channel Status display shall show the channels on which the Field Check Fault occurred.

4.2.2. If Field Check errors occurred during a Conflict Fault, Red Fail, Clearance Fail, or Dual Indication Fail, the FIELD CHECK FAIL indicator shall illuminate and double pulse every 2 seconds. The channels on which the Field Check Status was detected

during the fault shall double pulse on the Channel Status Display at the same time as the FIELD CHECK FAIL indicator.

### **4.3 DISPLAY INDICATORS**

The following display indicators shall be provided in addition to those required by the NEMA Standard Section 4.

4.3.1 The TYPE 12 indicator shall illuminate when the MMU is programmed for Type 12 operation. If a Type Fault is detected the DIAGNOSTIC / PGM CARD indicator shall illuminate and the TYPE 12 indicator shall flash at a rate of 2 Hz.

4.3.2 The BND FAIL indicator shall illuminate when a BND Fault is detected. The Channel Status display shall show the channels that were detected as BND Fail.

4.3.3 The DUAL INDICATION indicator shall illuminate when a DUAL INDICATION Fault is detected. The Channel Status display shall show the channels that were detected as DUAL INDICATION.

4.3.4 The POWER indicator shall flash at a rate of 2 Hz when the AC LINE voltage is below the dropout level. It shall illuminate steadily when the AC LINE voltage returns above the restore level.

4.3.5 The RECEIVE indicator shall illuminate for a 33 msec pulse each time a Prot 1 message is correctly received from the Controller Unit.

4.3.6 The TRANSMIT indicator shall illuminate whenever the MMU has the Port 1 transmitter enabled.

4.3.7 The DIAGNOSTIC / PGM CARD indicator shall flash at a 2 Hz rate if the Programming Card is absent or not seated properly in its mating connector.

### **5.0 ADDITIONAL FEATURES**

5.1 The MMU shall include both automatic and operator initiated diagnostics.

5.1.1 Automatic diagnostics shall verify memory and microprocessor operation each time power is reapplied to the MMU. After power has been applied, diagnostics shall continually verify the operation of essential elements of the MMU including at a minimum: PROM, EEPROM, communications, internal power supply, and the microprocessor.

5.1.2 Operator initiated diagnostics shall allow the operator to verify proper operation of all indicator lights, PROM, EEPROM, RAM, and microprocessor.

## **5.1 Measurement and Payment**

No separate measurement and payment shall be made for Malfunction Management Units. Payment shall be made in accordance with section 703.04 of the VDOT specifications.

## **SECTION 804 - EMERGENCY VEHICLE PREEMPTION**

### **1. DESCRIPTION**

This work shall consist of furnishing and installing emergency preemption equipment in accordance with these specifications and as shown on the plans or as directed by the Engineer.

### **2. EQUIPMENT**

Emergency preemption equipment shall be optically activated providing all features and functions as the existing equipment with the City's emergency preemption system and shall fully interface with that existing equipment. Existing equipment consists of 3M's Model 754 Phase Selectors and Model 711 Optical Detectors.

Conductor cables between the optical detectors and the phase selectors/system chassis shall be in accordance with Section 703.02(d) 3b of the Specifications.

Mounting assemblies for the detectors and emitters shall be fabricated from corrosion resistant materials or shall be galvanized.

### **3. PROCEDURES**

Locations of optical detectors shown on plans are approximate; exact locations shall be as required for proper alignment. Installation of all emergency preemption equipment shall be in accordance with the manufacturer's recommendations. The Contractor shall provide all equipment necessary to completely install this equipment including programming the phase selectors. Software required for programming the phase selectors shall remain the property of the Contractor. Emergency preemption conductor cables shall be permanently identified in accordance with Section 703.03(g) of the Specifications except tags shall indicate preempt detector (preempt confirmation for the 14/2 cable) and the direction of approach. The Contractor shall provide the manufacturer's installation, operational and maintenance manuals for each piece of equipment to the Engineer.

### **4. TESTING**

Testing of the emergency preemption system shall be accomplished in the presence of the City. The Contractor shall contact the City 48 hours in advance to arrange system testing. The City will provide an operator and vehicle equipped with an emitter for the test to determine if equipment is operating and logging properly. Deficiencies shall be corrected and faulty equipment replaced by the Contractor at no expense to the City.

5. MEASUREMENT AND PAYMENT

**Emergency vehicle preemption device (4 way)** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include the mounting bracket necessary to install the detector on a mast arm as shown on the plan, mounting and wiring the detector, cabling to connect the optical detectors to the cabinet equipment, installation of the encoded detector card(s), software, relay detector panel, cabinet wiring harness(es), transient protection, installing and wiring all items into the controller cabinet to ensure proper operations of emergency vehicle preemption on each approach of the intersection. No separate measurement or payment will be made for testing, adjustments for proper system operation, or system documentation.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Emergency vehicle preemption device (4 way).....	Each

## **SECTION 806 – FIBER OPTIC COMMUNICATIONS**

### **1. Description**

Furnish and install single mode fiber-optic (SMFO) communications cable, fiber optic termination unit, and all necessary hardware.

### **2. Materials**

#### **A. SMFO CABLE**

Furnish loose tube, gel free fiber-optic cable with required fiber count that complies with RDUP/RUS CFR 1755.900, single mode with a dielectric central member. Use single mode fiber in cable that does not exceed 0.3 dB/km at 1550 nm and 0.4 dB/km at 1310 nm. Provide cable with all fibers that are useable and with a surface sufficiently free of imperfections and inclusions to meet optical, mechanical, and environmental requirements. Provide cable with minimum of one ripcord under sheath for easy sheath removal and with shipping, storage and operating temperature of at least -40 to 158 degrees F, installation temperature of -20 to 158 degrees F with a dual layered, UV cured acrylate fiber coating applied by cable manufacturer that may be stripped mechanically or chemically without damaging fiber. Provide cable with strength rods to control fiber bending and prevent twisting of the cable.

Provide fibers inside a loose buffer tube cable. Use a super absorbent, water swellable yarn or tape for each cable. Distinguish each fiber and buffer from others by means of color coding that meets EIA/TIA-598-B Color Coding of Fiber-Optic Cables.

Provide cable with high tensile strength aramid yarns or fiberglass yarns that are helically stranded evenly around the cable core.

Provide cable jacket of consistent thickness that is free of holes, splits, and blisters, and containing no metal elements. Provide outer jacket of medium density polyethylene with minimum nominal sheath thickness of 0.050 inch. Ensure polyethylene contains carbon black for ultraviolet light protection and does not promote the growth of fungus.

Cable shall have a minimum bend radius of 20 times cable diameter or less (for installation) and 10 times cable diameter or less (for long term).

Provide length markings in sequential feet and within one percent of actual cable length. Ensure that character height of the markings is approximately 0.10 inch.

#### **B. FIBER TERMINATION UNIT**

For termination of the cable in the equipment cabinet, cable is to be terminated on a single-panel housing (SPH) unit with capacity for 12 individual fibers. The SPH unit shall be outdoor rated and shall occupy a volume of no more than 1.0 cubic feet. The unit shall be equipped with mounting brackets to secure the unit to the interior of the cabinet.



The termination unit shall have a pull-out shelf that allows easy access to the splice tray, buffer tube, and fiber storage area that permits fusion splicing to be conducted at a minimum distance of 10 feet from the housing.

Termination units shall be properly sized for the required number of splices and terminations. The fiber optic splice enclosure shall meet the following requirements:

- Have provisions for minimum of six (6) fiber optic cable entries
- Have provisions for internally securing the fiber optic cable sheath and central strength member for a minimum of six (6) fiber optic cables
- Rack mounted
- Have front and rear doors or removable panels
- Have a top, bottom, and 4 sides that fully enclose the interior and protect its contents from physical damage
- Provisions for neatly routing cables, buffer tubes, and fan-out tubing
- Have cable management brackets or rings integral to the unit to secure and route cables from the connector modules and splice trays to the vertical rack members while maintaining a minimum 38 mm cable radius

### **C. AERIAL SPLICE ENCLOSURE**

Furnish splice enclosures that are re-enterable using a mechanical dome-to-base seal with a flash test valve, and are impervious to the entry of foreign material (water, dust, etc.). Ensure enclosures are manufactured in such a manner to be suitable for aerial installation.

Provide enclosures with a minimum of four round ports (for single cables) that will accommodate all cables entering enclosure. Provide heat shrink cable shields with enclosure to ensure weather tight seal where each cable enters enclosure.

Within enclosures, provide enough hinged mountable splice trays to store the number of splices required, plus the capacity to house six additional splices. Ensure enclosures allow sufficient space to prevent microbending of the buffer tubes when coiled.

Provide splice trays that hold, protect, and organize optical fibers, and that secure fibers inside the splice tray.

Provide splice trays that are dielectric.

### **D. COMMUNICATIONS CABLE IDENTIFICATION MARKERS**

Furnish orange communications cable identification markers that are resistant to fading when exposed to UV sources and changes in weather. Use markers designed to coil around fiber-optic cable, and that do not slide or move along the surface of the cable once installed. Ensure

exposure to UV light and weather does not affect the markers natural coiling effect or deteriorate performance. For all fiber optic cables furnish cable wraps containing the following text in black:

**WARNING**  
**CITY OF HAMPTON TRAFFIC FIBER OPTIC CABLE**  
**CONTACT TELEPHONE NUMBER:**  
**(757) 726-2831**  
**WARNING**  
**CITY OF HAMPTON TRAFFIC FIBER OPTIC CABLE**

Overall Marker Dimensions: 7" (l) x 4" (w)

Lettering Height: 3/8 inch for *WARNING*, 1/4" for all other lettering

### **3. Construction Methods**

#### **A. GENERAL**

Install single mode fiber-optic (SMFO) fiber communications cables, communications cable identification markers, and all necessary hardware.

Comply with manufacturer's recommendations. Install communications cable in conduits as required to bring the fiber-optic cable into and, if necessary, out of each splice enclosure.

Take all precautions necessary to ensure that communication cables are not damaged during storage, handling, and installation. Do not violate the minimum bending radius as recommended by the manufacturer. Do not step on cable nor run over cable with vehicles or equipment. Do not pull cable over or around obstructions, or along the ground.

Determine lengths of cable necessary to reach from termination point to termination point. Install cable in continuous lengths between approved splicing facilities. Additionally, provide a sufficient amount of slack cable to allow for an additional 20 feet of cable to be present after removal of outer sheath for termination. Measure slack cable by extending cable straight out of cabinet door and/or manholes.

Keep cable ends sealed at all times during installation to effectively prevent the ingress of moisture. Use approved heat shrink cable end cap. Do not use tape to seal cable ends.

Before installing cables, provide three copies of the cable manufacturers' recommended and maximum pulling tension for each cable type/size. Do not exceed the manufacturer's recommended pulling tension. Use pulling grips containing a rotating swivel. Coil cable in a figure-8 configuration whenever cable is unreeled for subsequent pulling.

All fiber optic splices shall be individual fusion splices.

## **B. UNDERGROUND INSTALLATION**

Install SMFO communication cabling underground in conduit using cable pulling lubricants recommended by the cable manufacturer. Obtain approval of cable pulling lubricant and method of pulling before installing underground fiber-optic and twisted-pair cables.

The Contractor shall use existing pull rope in existing conduit to install fiber-optic cable whenever possible. For portions of existing conduit without existing pull rope, the contractor may, at the discretion of the Engineer, use existing cable as a pull rope to install new fiber optic cable.

The Contractor shall be responsible for determining the viability of portions of existing conduit.

Use a dynamometer (clutch device) so as not to exceed the maximum allowable pulling tension if the cable is pulled by mechanical means. Do not use a motorized vehicle to generate cable pulling forces.

Keep tension on the cable reel and pulling line at the start of each pull. Do not release tension if the pulling operation is halted. Restart the pulling operation by gradually increasing tension until the cable is in motion.

For pulling cable through junction boxes feed cable by manually rotating the reel. Do not pull cable through intermediate junction boxes, handholds, or openings in conduit unless otherwise approved.

Install communications cable identification markers on each communications cable entering a junction box.

## **C. AERIAL INSTALLATION**

Lash SMFO cable to existing aerial communications cable span.

Provide either 0.05" x 0.30" aluminum wrapping tape or 0.06" stainless steel lashing wire for lashing cables to messenger cable or existing communication cable. When requested by the City, furnish samples of wire to the City at no additional cost.

Install all wire with necessary hardware including, but not limited to shoulder eyebolts, washers, nuts, thimbleyelets, three-bolt clamps, J-hooks, split bolt connectors, and lashing material.

## **D. INSTALLATION OF FIBER TERMINATION UNIT**

At equipment cabinet end of the drop cable, terminate all fibers on the SPH unit. After terminating all fibers, fasten the unit to an interior surface of the cabinet, if possible. Otherwise, rest the unit on a shelf.

Install termination unit with connector panels, splice trays, and all necessary hardware.

Fusion splice and secure SMFO cable in splice trays inside the splice enclosure. Ensure all buffer tubes are contained within splice trays so no bare fibers are outside tray. For all buffer tubes designated to pass through splice enclosure, neatly coil the excess tubing inside basket provided with enclosure.

Do not exceed 0.05 dB of attenuation per splice.

Furnish strain relief so that no tensile force is on the SMFO cable when it is held within the interconnect center or aerial splice enclosure.

Do not damage fiber or violate the minimum bending radius of the fiber.

Label all fiber-optic splices. Obtain approval of fiber-optic connector labeling method. Install heat shrink cable shields using methods recommended by the manufacturer of the enclosure.

Install enclosures with enough slack cable to allow enclosure to be lowered to ground level and extended into a splicing vehicle that is located within 10 feet of the equipment cabinet.

Contractor shall coordinate with the City to determine proper connection of fiber optic cable to existing Ethernet switch. Connection to existing Ethernet switch shall be considered incidental to the installation of the termination unit.

## **E. TESTING FIBER CABLING**

Provide cable manufacturer's attenuation and Optical Time Domain Reflectometer (OTDR) testing data for each reel of cable prior to installation, in a format approved and accepted by the Engineer.

Provide written notification a minimum of ten days before beginning OTDR tests. The Engineer must be present during all testing. Test whole segments following installation. Test all existing fibers prior to reuse.

After splicing is completed, perform bi-directional OTDR test on each fiber, including unused fibers. Install 1,000 meter pre-tested launch cable between the OTDR and the fiber optic to be tested.

Ensure fusion splice losses do not exceed 0.05 dB and connectors have a loss of 0.5 dB or less. If any fiber exceeds maximum allowable attenuation or if fiber properties of the cable have been impaired, take appropriate actions up to and including replacement of the fiber cable. Corrective action will be at no additional cost to the City.

Clearly label each OTDR trace identifying a starting and ending point for all fibers being tested. Record the attenuation level of each fiber and clearly indicate OTDR trace results in report format. Furnish one hard copy of each of the OTDR trace results and electronic copies of all trace results on a compact disk or other electronic media approved by the Engineer. Furnish the manufacturer's make, model number, and software version of the OTDR used for testing.

#### 4. Measurement and Payment

**SMFO Cable (24 Fiber)** - will be measured and paid as the actual linear feet of fiber-optic cable furnished, installed, tested, and accepted. Measurement will be made by calculating the difference in length markings located on outer jacket from start of run to end of run for each run. Coordination with the City of Hampton, as required, shall be incidental to the price. Terminate all fibers before determining length of cable run. No separate measurement or payment shall be made for shoulder eyebolts, washers, nuts, thimbleyelets, three-bolt clamps, J-hooks, split bolt connectors, lashing material, or any tools or hardware necessary to complete installation of the fiber optic cable.

**Fiber Optic Termination Unit** will be measured and paid as each termination unit furnished, installed, tested, and accepted. Separate payment will not be made for mounting hardware, fiber optic splicing, pigtails, connectors, or any equipment necessary to complete installation and splicing of fiber optic cable or termination unit. Connection of fiber optic cable to existing Ethernet switch shall be considered incidental to the installation of the Fiber Optic Termination Unit. All pairs shall be terminated before determining the length of cable run.

**Aerial Splice Enclosure** will be measured and paid as the actual number of fiber-optic splice enclosures furnished, installed, and accepted in accord with the following conditions: No measurement will be made of splice trays, pigtails, jumpers, connector panels, and testing, as these will be considered incidental to furnishing and installing aerial splice enclosures.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
SMFO Cable (24 Fiber) .....	Linear Foot
Fiber Optic Termination Unit .....	Each
Aerial Splice Enclosure.....	Each

## SECTION 900 - TEST PITS

1. Description: This item will consist of performing test pits within the project for the purpose of locating underground utilities prior to excavation. Prior to any test pit operation, the Contractor is to review the location, number of test pits and the existing utilities with the City representative. The contractor shall obtain the vertical and horizontal location, measured off of the construction center line or base line, and determine the size of the utility line being test pitted. Test pits performed without prior authorization from the City representative will be at the Contractor's expense.
2. Materials: Materials for backfill and pavement replacement shall meet applicable provision of these specifications.
3. Method of Measurement: Test Pits will be measured in units of each.
4. Method of Payment: Test Pits will be paid for at the contract bid price. Such price will be full compensation for all tools, labor, materials, survey equipment and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Test Pits	Each

**Coliseum Drive-Coliseum Crossing Traffic Signal**  
**VDOT Project No.: U000-114-178 (UPC 86501)**  
**Federal Project No.: HSIP-5A03(159)**  
**Transportation Management Plan**

**General**

Based on the criteria set forth in IIM LD241.5 (effective September 19, 2011) this project falls under the description of a Type A Project.

The Work under this Project consists of furnishing and installing a new, fully operational traffic signal at the intersection of Coliseum Drive and Coliseum Crossing.

The work hours are restricted as follows:

- Mon. thru Sat. – work will be completed between the hours of 9am and 4pm
- Sun. and holidays – no work may be completed in the roadway unless approved by the City in writing
- the City will allow overnight construction activities from 6pm till 6am

There are no areas available for equipment or material storage at the construction site.

Specific VWAP TTC standards to be used (attached)

- Work Beyond the Shoulder Operation TTC-1.0
- Outside Lane Closure Operation on a Four-Lane Roadway TTC-16.0
- Inside Lane Closure Operation on a Four-Lane Roadway TTC-17.0
- Lane Closure Operation – Near Side of an Intersection TTC-26.0
- Lane Closure Operation – Far Side of an Intersection TTC-27.0
- Lane Closure Operation in an Intersection TTC-28.0
- Turn Lane Closure Operation TTC-29.0
- Flagging Operation at a Signalized Intersection TTC-30.0
- Sidewalk Closure and Bypass Sidewalk Operation TTC-35.0
- Crosswalk Closure and Pedestrian Detour Operation TTC-36.0
- Signing for Project Limits TTC-53.0

No “Special Details” are required. The contractor shall contact Traffic Engineering at (757) 726-2831 or (757) 727-8418 at least two (2) working days prior to the first lane closures and provide details including date, direction, lane, and expected duration.

The City of Hampton Traffic Engineering has the ability to adjust signal timings from our traffic control center to reflect contractor work activities and to enhance public safety and ensure an optimal level of service during construction activity. We will also monitor citywide traffic flows from various CCTV cameras.

No commercial entrances will be closed during construction. There are no existing pedestrian facilities in the median.

Most travelers in these intersections are commuters and residents. The areas are mostly residential. The contractor must keep at least one lane of traffic open in each direction. The minimum widths of the lanes are 11’.

#### Public Communications Plan

The City of Hampton is equipped with a 311 system which allows residents and businesses to contact City staff with questions, concerns, or problems. The Traffic Engineering division can post construction information on our Citywide congestion map which is available to the public via the City's website.

Public safety officers, contractors and inspectors have emergency contact information should incidents occur.

Any traffic issues as a result of this project will not affect regional facilities. In addition, the City of Hampton is responsible for the administration of this contract under the Urban Construction Initiative.

#### Transportation Operations Plan

Since this project has a length less than the ½ mile indicated in IIM LD241.5, does not have reduced-width travel lanes, and the City of Hampton is administering this project, no Transportation Operations Plan is required.



**Typical Traffic Control**  
***Work Beyond the Shoulder Operation***  
**(Figure TTC-1.0)**

**NOTES**

*Guidance:*

1. *The minimum distance between the sign and work vehicle should be 1300'-1500' on Limited Access highways, and on all other roadways 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limited is 45 mph or less.*

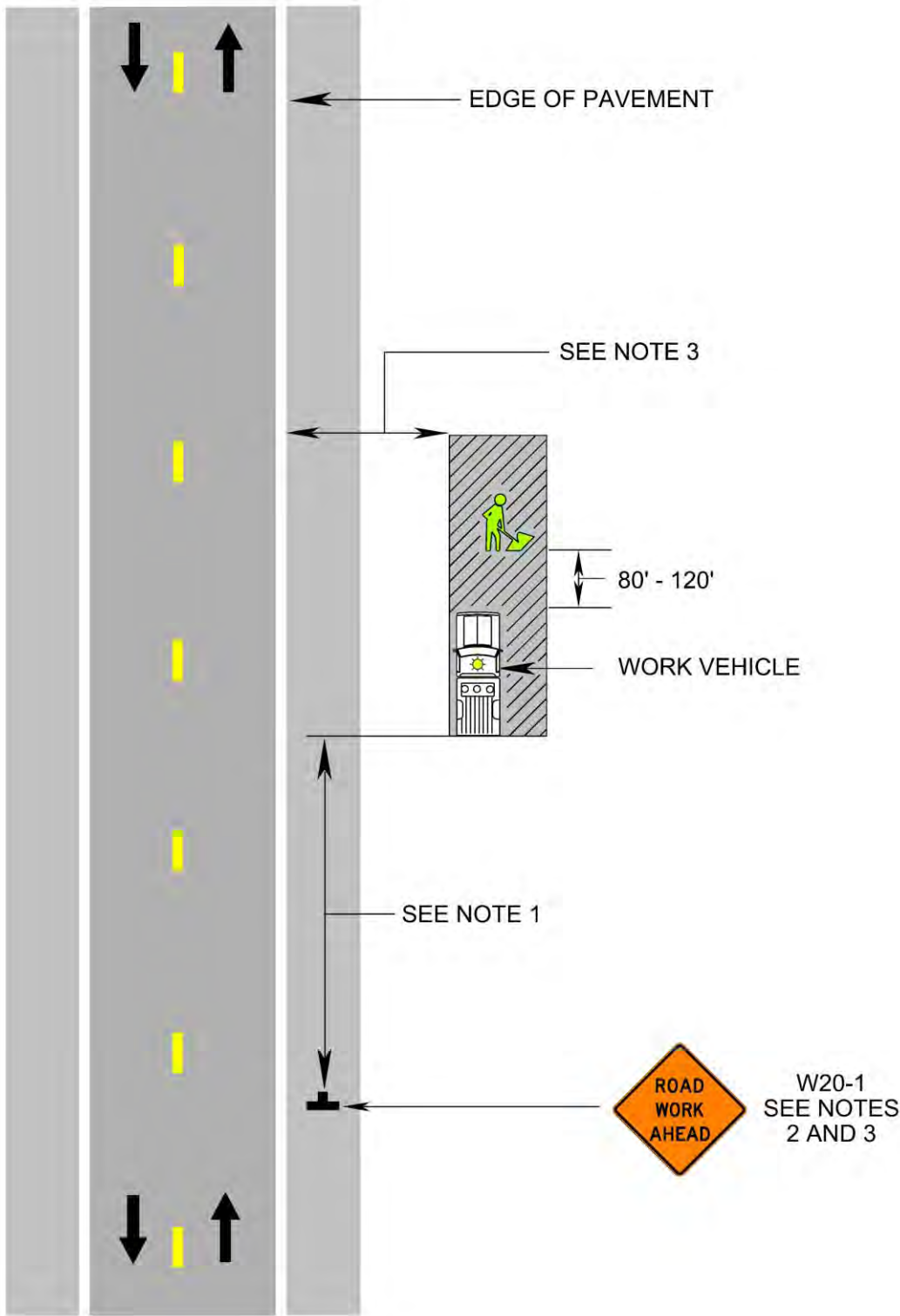
Option:

2. The ROAD WORK AHEAD (W20-1) sign may be replaced with other appropriate signs such as the SHOULDER WORK (W21-5) sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.
3. The ROAD WORK AHEAD sign may be omitted where the work space is behind a barrier, more than 4 feet behind vertical curb (Standard CG-2 and CG-6) on urban roadways, or outside of the clear zone for all other roadways. For clear zone values see Page A-4 of Appendix A.
4. For short-term, short duration or mobile operation, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, oscillating, or strobe lights is used.

**Standard:**

5. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, oscillating, or strobe lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, oscillating, or strobe lights.**
6. **If the work space is in the median of a divided highway, an advance warning sign shall also be placed on the left side of the directional roadway.**

**Work Beyond the Shoulder Operation**  
**(Figure TTC-1.0)**



**Typical Traffic Control**  
**Outside Lane Closure Operation on a Four-Lane Roadway**  
**(Figure TTC-16.0)**

**NOTES**

**Standard:**

1. On divided highways having a median wider than 8', right and left sign assemblies shall be required.

*Guidance:*

2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
3. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. For Limited Access highways a minimum of 1000' is desired.
4. All vehicles, equipment, workers, and their activities should be restricted to one side of the pavement.

**Standard:**

5. Taper Length (L) and Channelizing Device Spacing shall be:

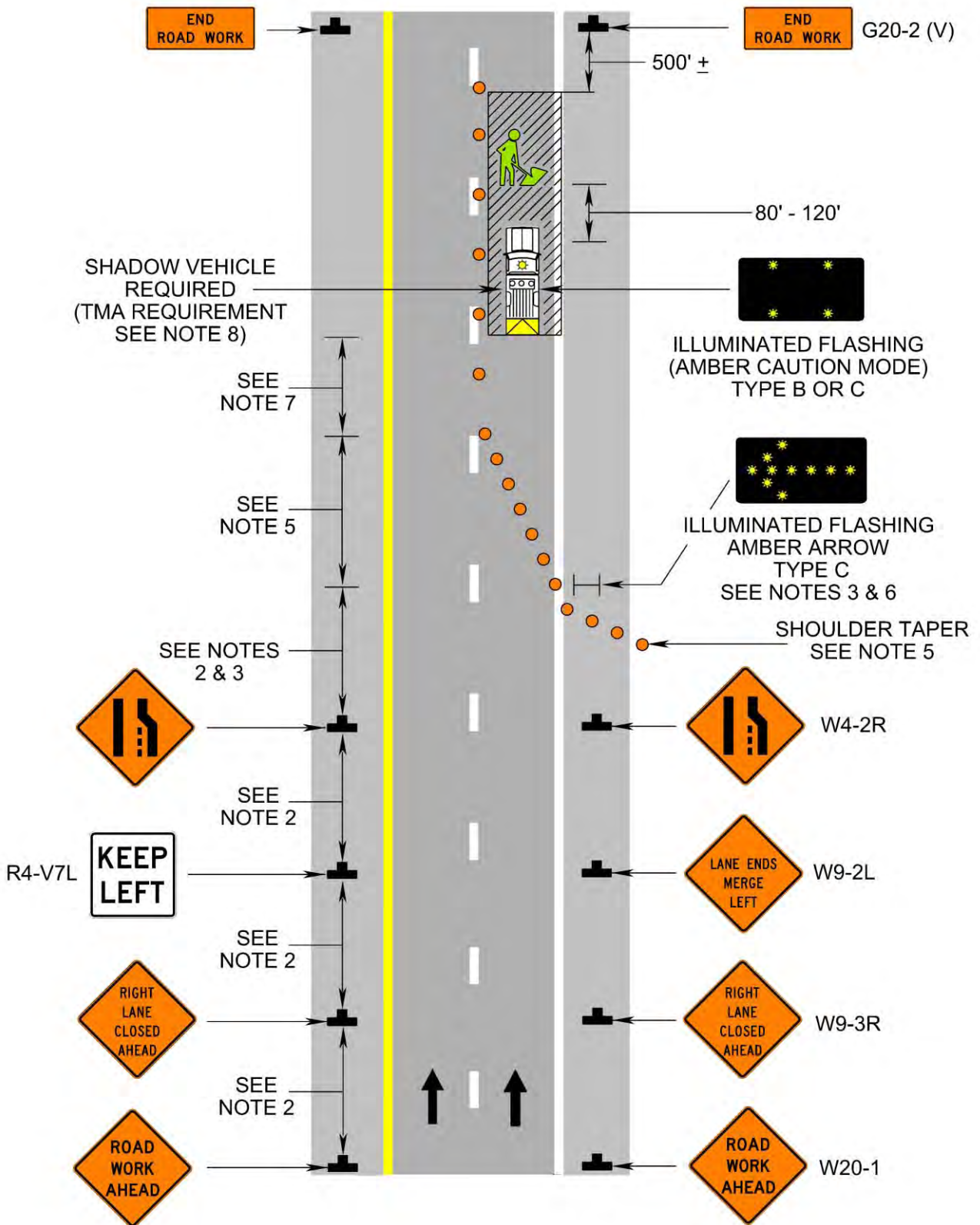
Taper Length (L)				
Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = $\frac{1}{3}$ L Minimum				

Channelizing Device Spacing		
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'
Construction Access*	80'	120'
* Spacing may be increased to this distance, but shall not exceed one access per $\frac{1}{4}$ mile.		

On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

6. An arrow board shall be used when a lane is closed. When more than one lane is closed, a separate arrow board shall be used for each closed lane (see Figure TTC-18).
7. The buffer space length shall be shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
8. A shadow vehicle with either a Type B or C arrow board operating in the caution mode, or at least one high intensity amber rotating, oscillating, or amber strobe light shall be parked 80'-120' in advance of the first work crew. When the posted speed limit is 45 mph or greater, a truck-mounted attenuator shall be used.
9. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, oscillating, or strobe lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, oscillating, or strobe lights.
10. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.

# **Outside Lane Closure Operation on a Four-Lane Roadway (Figure TTC-16.0)**



**Typical Traffic Control**  
**Inside Lane Closure Operation on a Four-Lane Roadway**  
**(Figure TTC-17.0)**

**NOTES**

**Standard:**

1. On divided highways having a median wider than 8', right and left sign assemblies shall be required.

*Guidance:*

2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
3. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. For Limited Access highways a minimum of 1000' is desired.
4. All vehicles, equipment, workers, and their activities should be restricted to one side of the pavement.

**Standard:**

5. Taper length (L) and channelizing device spacing shall be:

Taper Length (L)				
Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = $\frac{1}{3}$ L Minimum				

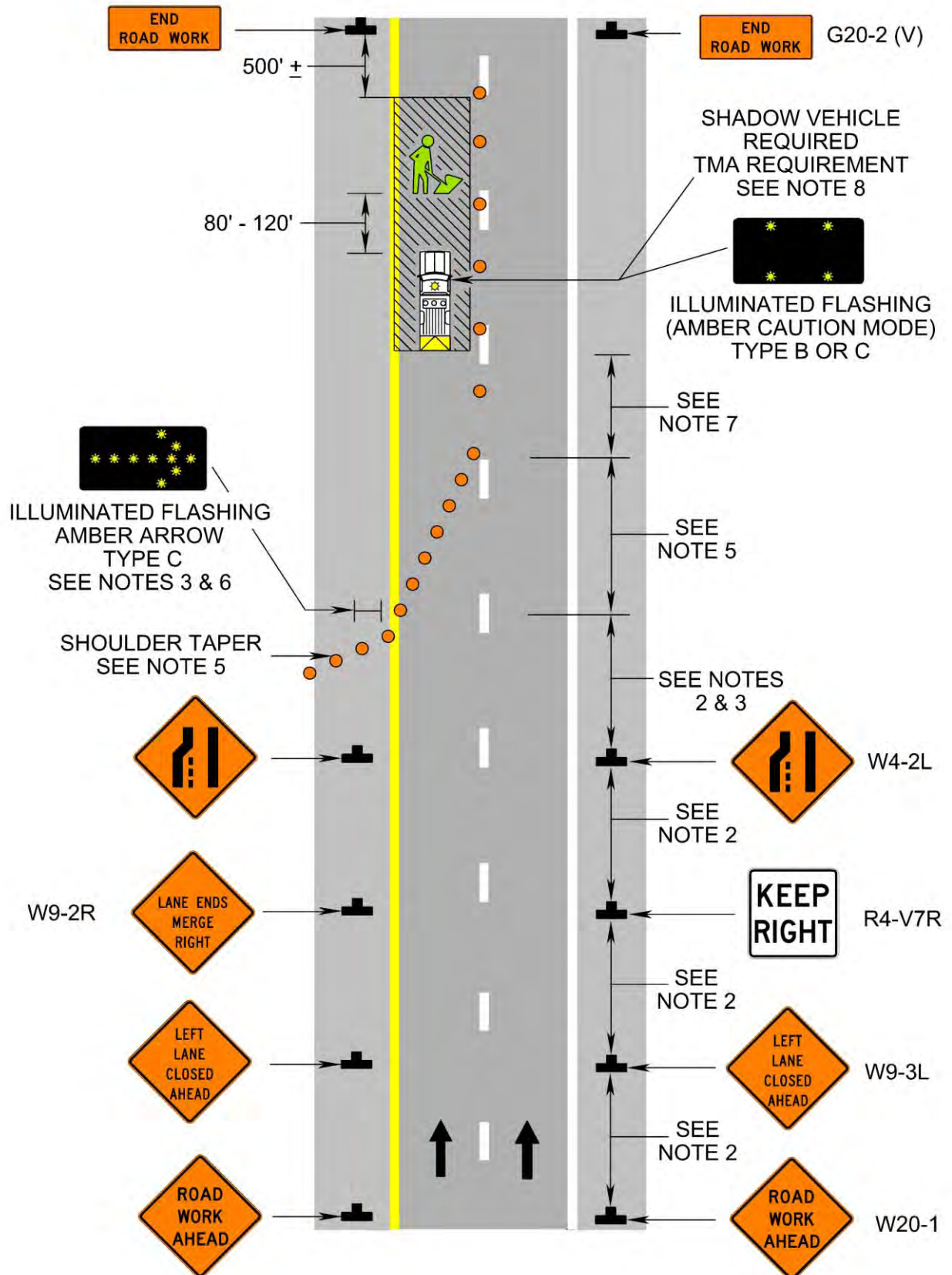
Channelizing Device Spacing		
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'
Construction Access*	80'	120'
* Spacing may be increased to this distance, but shall not exceed one access per $\frac{1}{4}$ mile.		

On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

6. An arrow board shall be used when a lane is closed. When more than one lane is closed, a separate arrow board shall be used for each closed lane (see Figure TTC-18).
7. The buffer space length shall be shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
8. A shadow vehicle with either a Type B or C arrow board operating in the caution mode, or at least one high intensity amber rotating, oscillating, or strobe light shall be parked 80'-120' in advance of the first work crew. When the posted speed limit is 45 mph or greater, a truck-mounted attenuator shall be used.
9. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, oscillating, or strobe lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, oscillating, or strobe lights.
10. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.



# Inside Lane Closure Operation on a Four-Lane Roadway (Figure TTC-17.0)



**Typical Traffic Control**  
***Lane Closure Operation – Near Side of an Intersection***  
**(Figure TTC-26.0)**

**NOTES**

*Guidance:*

1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' where the posted speed limit is greater than 45 mph.

**Standard:**

2. On divided highways having a median wider than 8', right and left sign assemblies shall be required.
3. Taper length (L) and channelizing device spacing shall be:

Taper Length (L)				
Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = $\frac{1}{3}$ L Minimum				

Channelizing Device Spacing		
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'
Construction Access*	80'	120'
* Spacing may be increased to this distance, but shall not exceed one access per $\frac{1}{4}$ mile.		

**On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.**

**On three or more lane roadways, the merging tapers shall be installed as shown in TTC-18.**

*Guidance:*

4. If room permits, a shadow vehicle with at least one rotating, oscillating, or amber strobe light should be parked 80'-120' in advance of the first work crew.

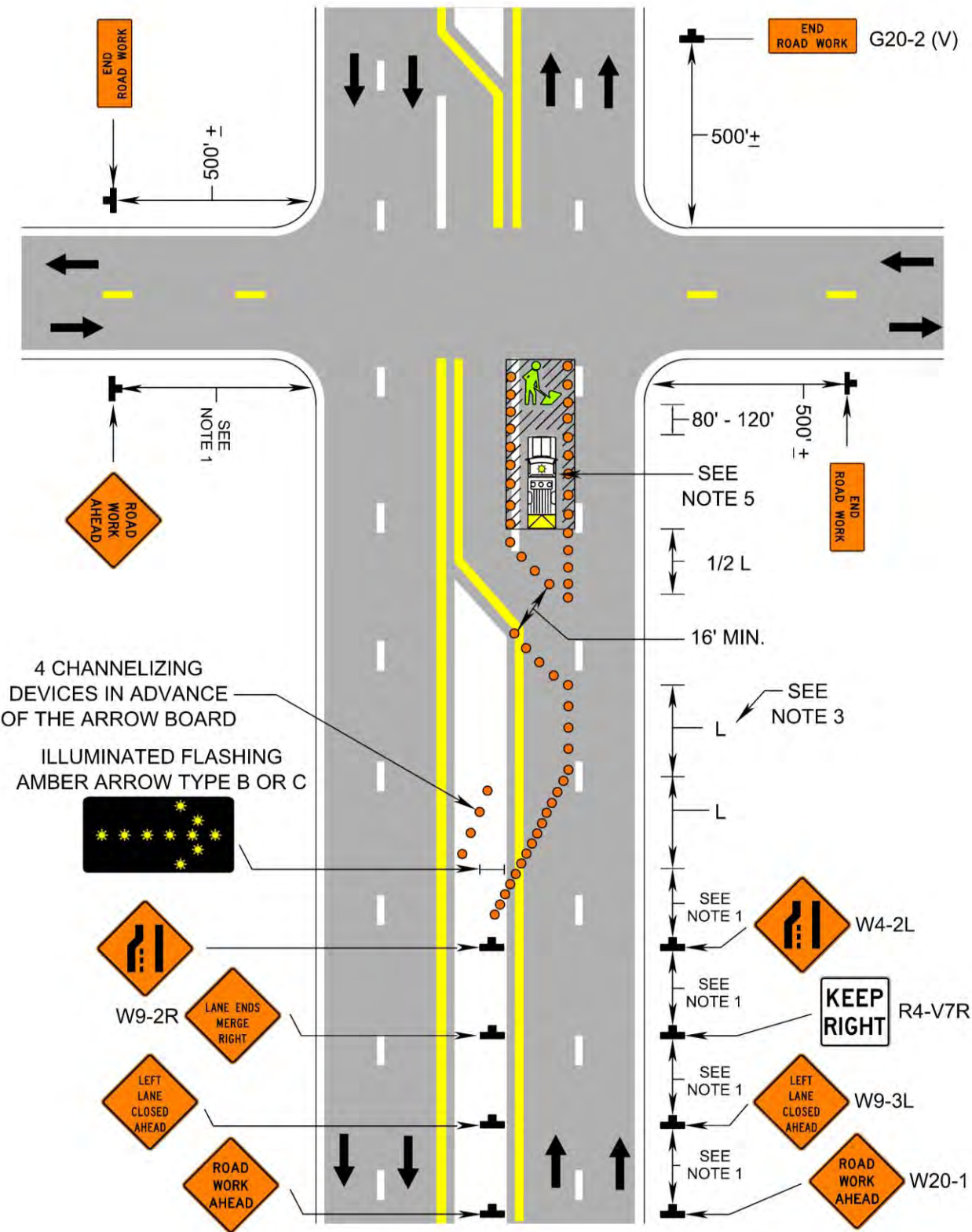
**Standard:**

5. If the posted speed limit is 45 mph or greater, the shadow vehicle shall have a truck-mounted attenuator.
6. For emergency situations (any non-planned operation) of 30 minutes or less duration, two rotating amber lights or two high intensity amber strobe lights mounted on the vehicle and visible for 360° shall be required in addition to the channelizing devices shown around the vehicle. Also, vehicle hazard warning signals or amber oscillating lights shall be used.

*Guidance:*

7. If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure TTC-36.

Lane Closure Operation - Near Side of an Intersection  
(Figure TTC-26.0)





**Typical Traffic Control**  
**Lane Closure Operation – Far Side of an Intersection**  
**(Figure TTC-27.0)**

**NOTES**

*Guidance:*

1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' where the posted speed limit is greater than 45 mph.

**Standard:**

2. On divided highways having a median wider than 8', right and left sign assemblies shall be required.
3. Taper length (L) and channelizing device spacing shall be:

Taper Length (L)				
Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840
Minimum taper lengths for Limited Access highways shall be 1000 feet.				
Shoulder Taper = $\frac{1}{3}$ L Minimum				

Channelizing Device Spacing		
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20'	40'
Travelway Spacing	40'	80'

**On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.**

*Guidance:*

4. If room permits, a shadow vehicle with at least one rotating, oscillating, or high intensity amber strobe light should be parked 80'-120' in advance of the first work crew.

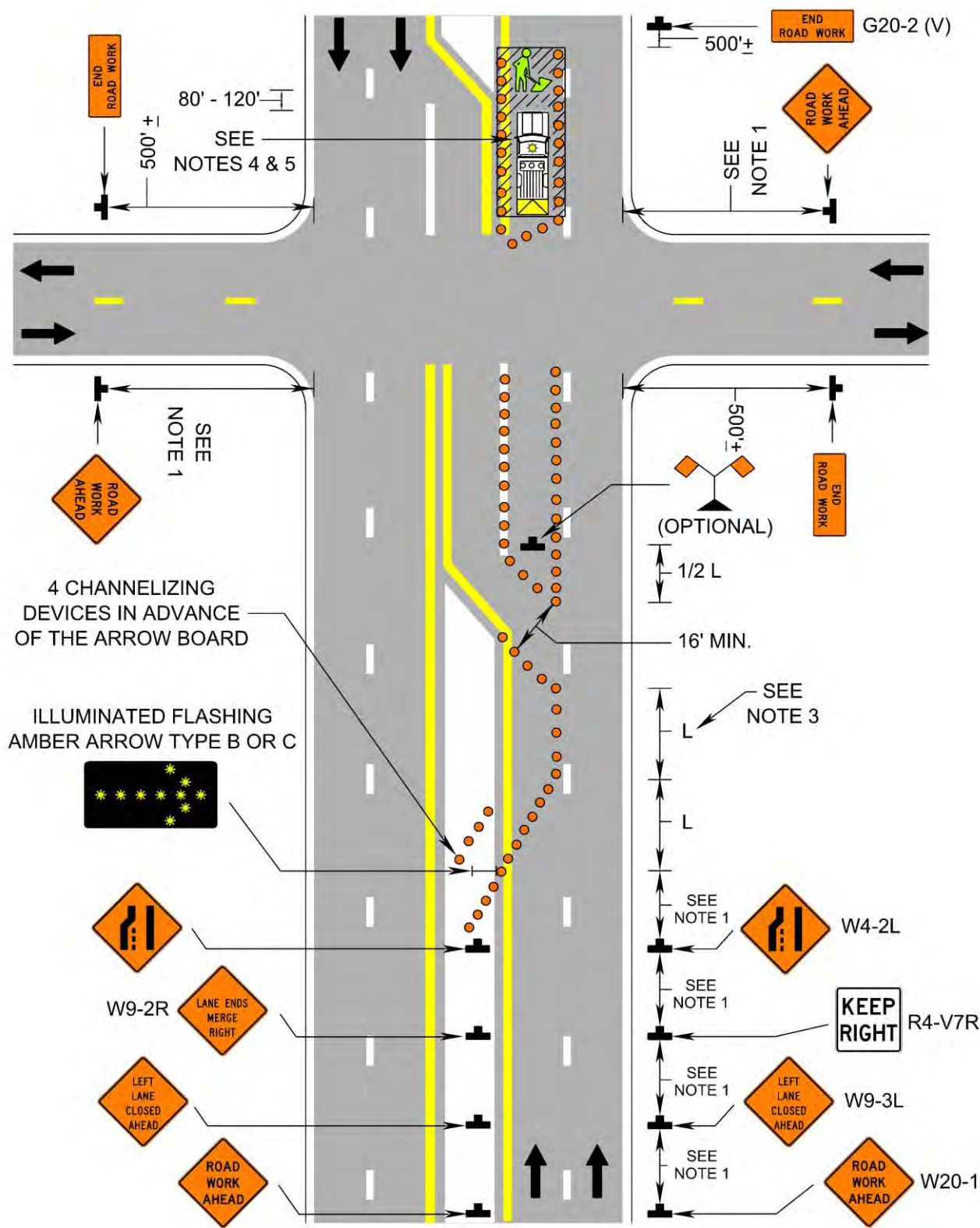
**Standard:**

5. If the posted speed limit is 45 mph or greater, the shadow vehicle shall have a truck-mounted attenuator.
6. For emergency situations (any non-planned operation) of 30 minutes or less duration, two rotating amber lights or high intensity amber strobe lights mounted on the vehicle and visible for 360° shall be required in addition to the channelizing devices shown around the vehicle. Also, vehicle hazard warning signals or amber oscillating lights shall be used.

*Guidance:*

7. If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure TTC-36.

Lane Closure Operation - Far Side of an Intersection  
(Figure TTC-27.0)



**Typical Traffic Control**  
***Lane Closure Operation in an Intersection***  
**(Figure TTC-28.0)**

**NOTES**

*Guidance:*

1. *The control of traffic through the intersection in order of preference should be:*
  - a. *Obtain the services of law enforcement personnel.*
  - b. *Detour the effective routes to other roads and streets as approved and directed by the Regional Traffic Engineer.*
  - c. *Place a state certified flagger on each leg of the intersection controlling a single lane of traffic.*

*Appropriate signing as shown should be used for law enforcement and flagging operations. For detour signs see Figure TTC-34.*
2. *Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' where the posted speed limit is greater than 45 mph.*

**Standard:**

- 3. Channelizing device spacing shall be on 20' centers or less.**

*Guidance:*

4. *If room permits, a shadow vehicle with at least one rotating amber light or high intensity amber strobe light should be parked 80'-120' in advance of the first work crew.*

**Standard:**

- 5. If the posted speed limit is 45 mph or greater, the shadow vehicle shall have a truck-mounted attenuator.**
- 6. For emergency situations (any non-planned operation) of 30 minutes or less duration, two rotating amber lights or high intensity amber strobe lights mounted on the vehicle and visible for 360° shall be required in addition to the channelizing devices shown around the vehicle. Also, vehicle hazard warning signals or amber oscillating lights shall be used.**

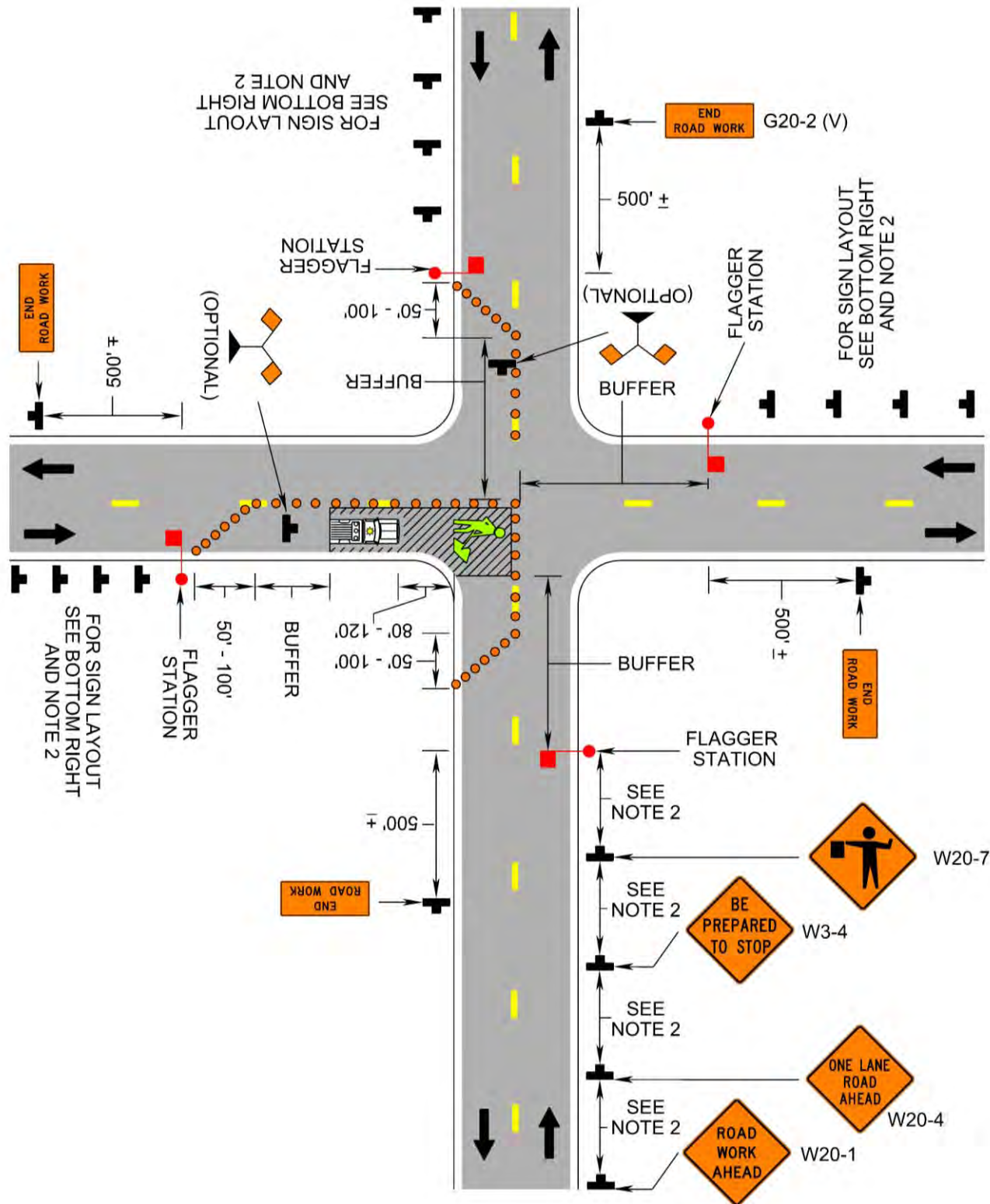
*Guidance:*

7. *If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure TTC-36.*

**Support:**

8. Turns can be prohibited as required by vehicular traffic conditions. Unless the streets are wide, it might be physically impossible to make certain turns, especially for large vehicles.

Lane Closure Operation in an Intersection  
(Figure TTC-28.0)



**Typical Traffic Control**  
**Turn Lane Closure Operation**  
**(Figure TTC-29.0)**

**NOTES**

*Guidance:*

1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' where the posted speed limit is greater than 45 mph.

**Standard:**

2. On divided highways having a median wider than 8', right and left sign assemblies shall be required.
3. To prevent accidental intrusion into the work area, channelizing device spacing shall not exceed 20' on centers.

Option:

4. This layout may be used for either right or left turn lane closures.
5. For a high volume of turning movements, additional traffic control devices, such as signs (graphic NO LEFT TURN (R3-2) or LEFT LANE MUST TURN LEFT (R3-7L)), channelizing devices and vehicles may be used

**Standard:**

6. Taper Length (L) shall be:

Speed Limit (mph)	Lane Width (Feet)			
	9	10	11	12
≤25	95	105	115	125
30	135	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	450	500	550	600
55	495	550	605	660
60	540	600	660	720
Shoulder Taper = $\frac{1}{3}$ L Minimum				

7. Buffer Space Length shall be:

Posted Speed Limit (mph)	Distance (Feet)
≤20	120±
25	160±
30	200±
35	250±
40	310±
45	360±
50	425±
55	500±
60	570±
65	650±
70	740±

*Guidance:*

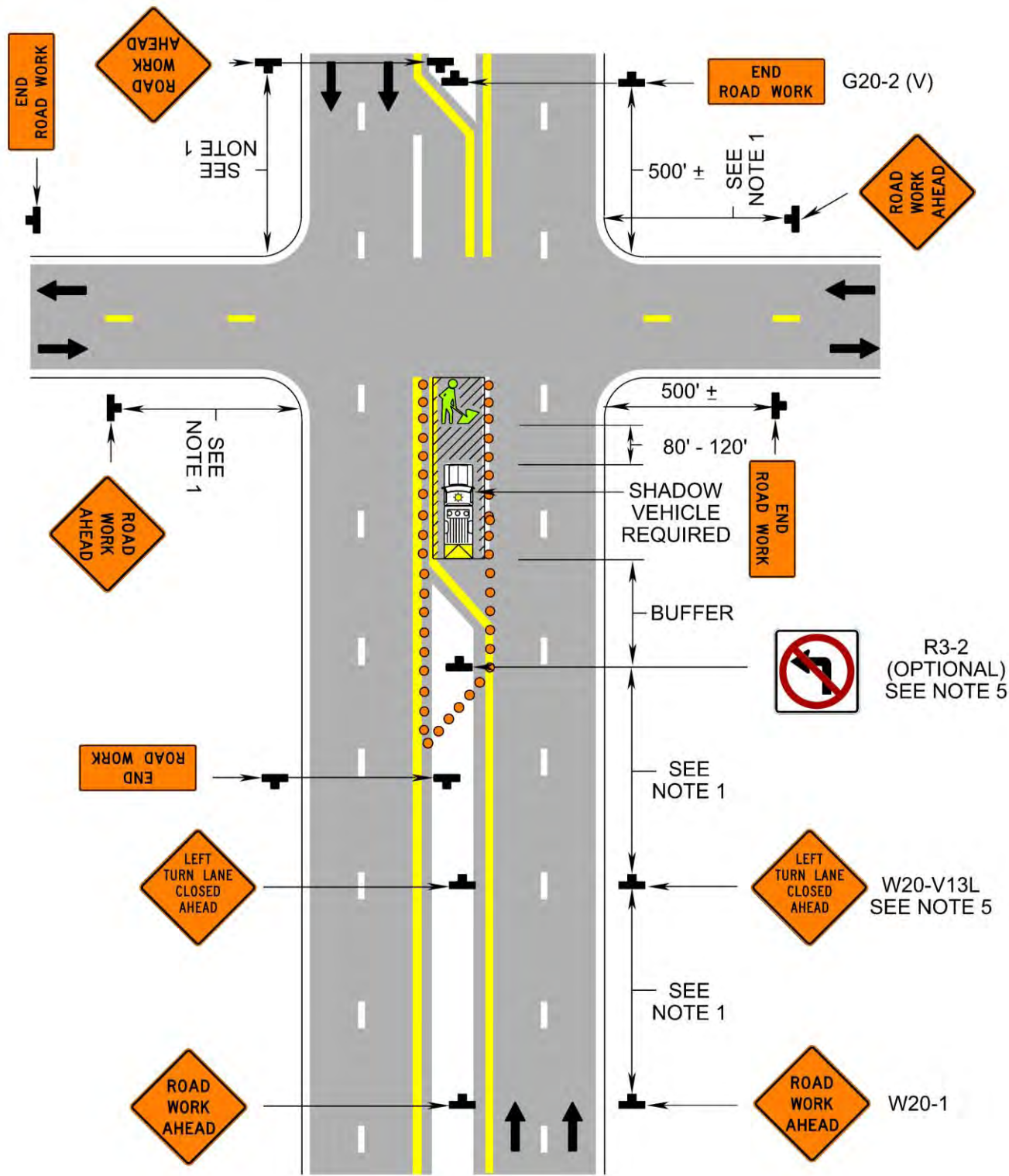
8. If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure TTC-36.

**Support:**

9. Turns can be prohibited as required by vehicular traffic conditions. Unless the streets are wide, it might be physically impossible to make certain turns, especially for large vehicles.



Turn Lane Closure Operation  
(Figure TTC-29.0)



**Typical Traffic Control**  
***Flagging Operation at a Signalized Intersection***  
**(Figure TTC-30.0)**

**NOTES**

***Guidance:***

1. *The control of traffic through the intersection in order of preference should be:*
  - a. *Obtain the services of law enforcement personnel.*
  - b. *Divert the effective routes to other roads and streets as approved and directed by the Regional Traffic Engineer.*
  - c. *Place a state certified flagger on each leg of the intersection with the approved signing as shown.*
2. *Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' where the posted speed limit is greater than 45 mph. For urban streets sign spacing distance should be 225'-275' where the posted speed limit is 30 to 35 mph, and 100' -200' where the posted speed is 25 mph or less .*

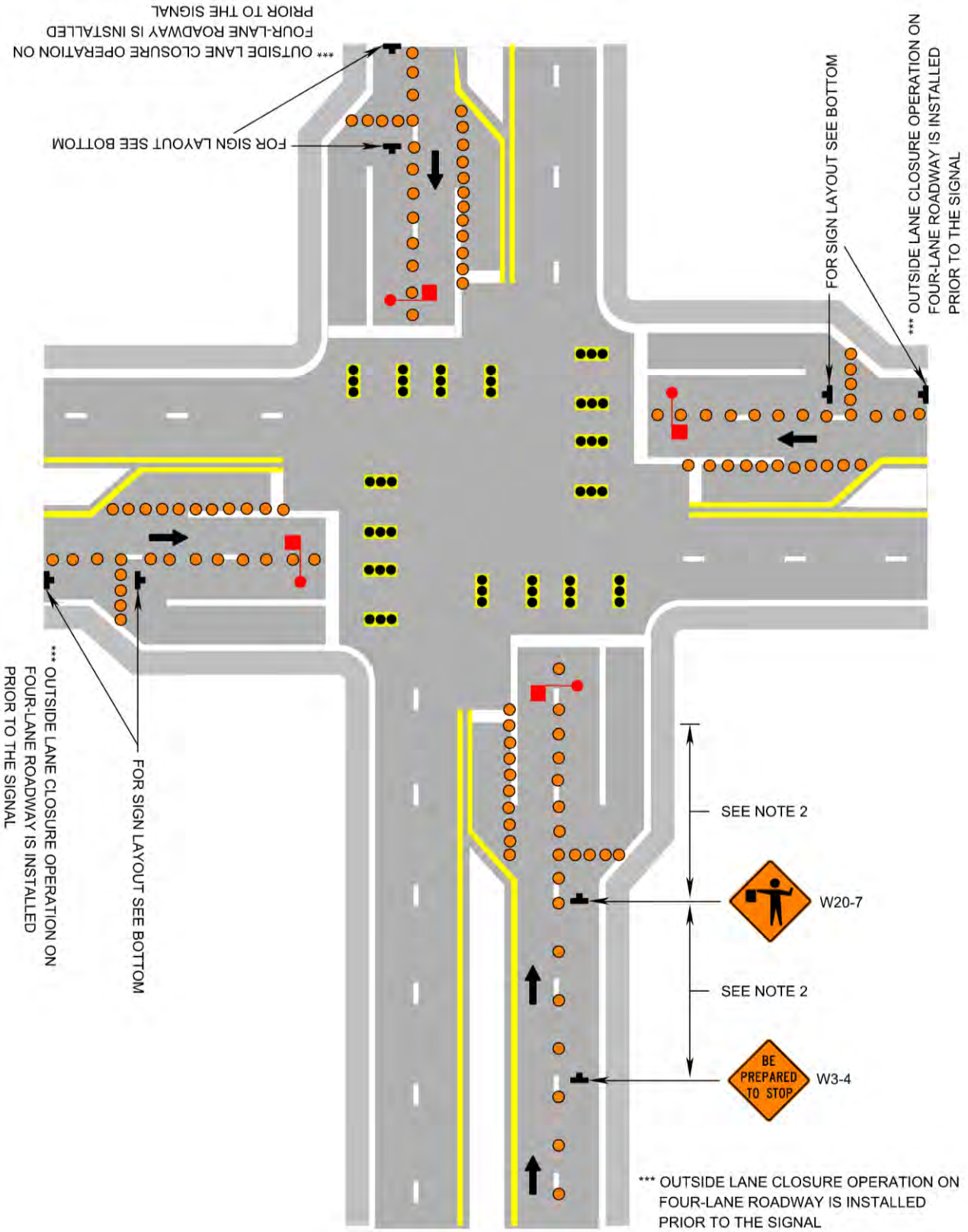
**Standard:**

3. **A stationary lane closure shall be installed in advance of the signalized intersection for all approaches with two or more lanes for through traffic.**
4. **All turn lanes at the intersection shall be closed.**
5. **Electrical power supply to signals shall be turned off while flaggers are controlling traffic through the intersection.**
6. **To prevent accidental intrusion into the flagger station, cone spacing shall not exceed 10' on centers from the graphic flagger sign to the flagger station. Cones shall be installed in the closed lane, perpendicular to traffic, prior to the flagging station.**
7. **A lead flagger shall be assigned to control all flagger operations. One flagger shall be stationed to control each approach of the intersection. Flaggers shall alternate right-of-way to traffic such that traffic moves through the intersection one approach at a time.**
8. **Flagger stations shall be illuminated during planned night time work operations with a minimum of horizontal luminance of 5-foot candles (50 lux ) (see Section 6E.08).**
9. **On divided highways having a median wider than 8', right and left sign assemblies shall be required.**

**Option:**

10. RIGHT TURN LANE CLOSED AHEAD (W20-V13R) and/or LEFT TURN LANE CLOSED AHEAD (W20-V13L) sign(s) may be used when closing the turn lanes.
11. For a high volume of turning movements, additional traffic control devices, such as signs (graphic NO LEFT TURN (R3-2), NO RIGHT TURN (R3-1), RIGHT TURN LANE CLOSED AHEAD (W20-V13R) and/or LEFT TURN LANE CLOSED AHEAD (W20-V13L)), cones and vehicles may be used.

**Flagging Operation at a Signalized Intersection  
(Figure TTC-30.0)**





**Typical Traffic Control**  
***Sidewalk Closure and Bypass Sidewalk Operation***  
**(Figure TTC-35.0)**

**NOTES**

**Standard:**

1. **When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.**

*Guidance:*

2. *Where high speeds are anticipated, a temporary traffic barrier and, if necessary, a crash cushion should be used to separate the temporary sidewalks from vehicular traffic.*
3. *Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.*
4. *Temporary markings should be considered for operations exceeding three days in duration.*

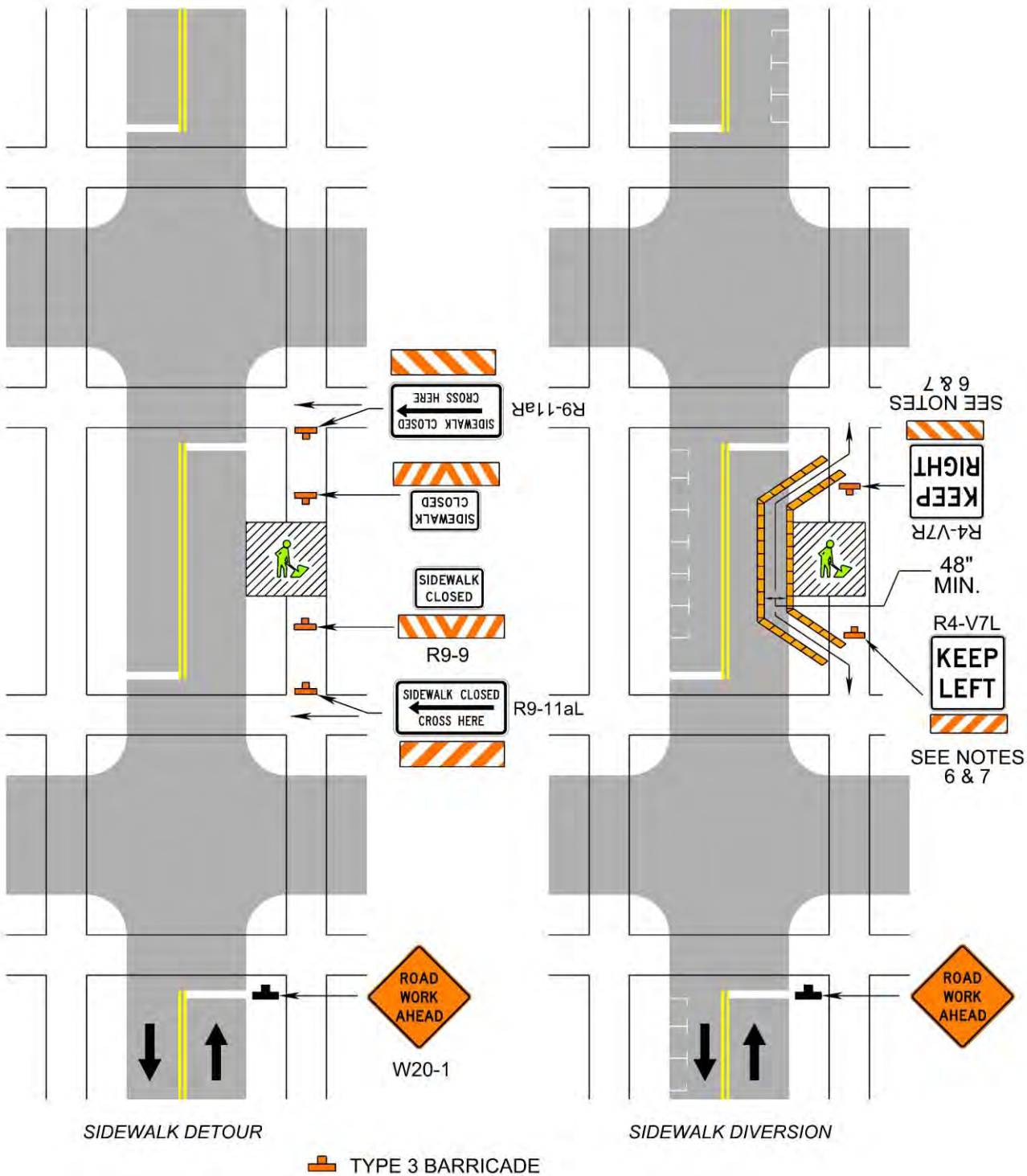
Option:

5. Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS (W5-1) signs, may be used to control vehicular traffic.
6. For nighttime closures, Type A Flashing warning lights may be used on barricades that support signs and close sidewalks.
7. Signs, such as KEEP RIGHT (R4-V7R) and KEEP LEFT (R4-V7L), may be placed along a temporary sidewalk to guide or direct pedestrians.

**Standard:**

8. **All sidewalk closures shall be closed with Type 3 Barricades.**

Sidewalk Closure and Bypass Sidewalk Operation  
(Figure TTC-35.0)



**Typical Traffic Control**  
***Crosswalk Closure and Pedestrian Detour Operation***  
**(Figure TTC-36.0)**

**NOTES**

**Standard:**

- 1. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.**
- 2. Curb parking shall be prohibited for at least 50 feet in advance of the midblock crosswalk.**

*Guidance:*

- 3. Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.*
- 4. Pedestrian traffic signal displays controlling closed crosswalks should be covered or deactivated.*
- 5. Temporary markings should be considered for operations exceeding three days in duration.*

**Option:**

6. Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS (W5-1) signs, may be used to control vehicular traffic.
7. For nighttime closures, Type A Flashing warning lights may be used on barricades supporting signs and closing sidewalks.
8. In order to maintain the systematic use of the fluorescent yellow-green background for pedestrian, bicycle, and school warning signs in a jurisdiction, the fluorescent yellow-green background for pedestrian, bicycle, and school warning signs may be used in TTC zones.

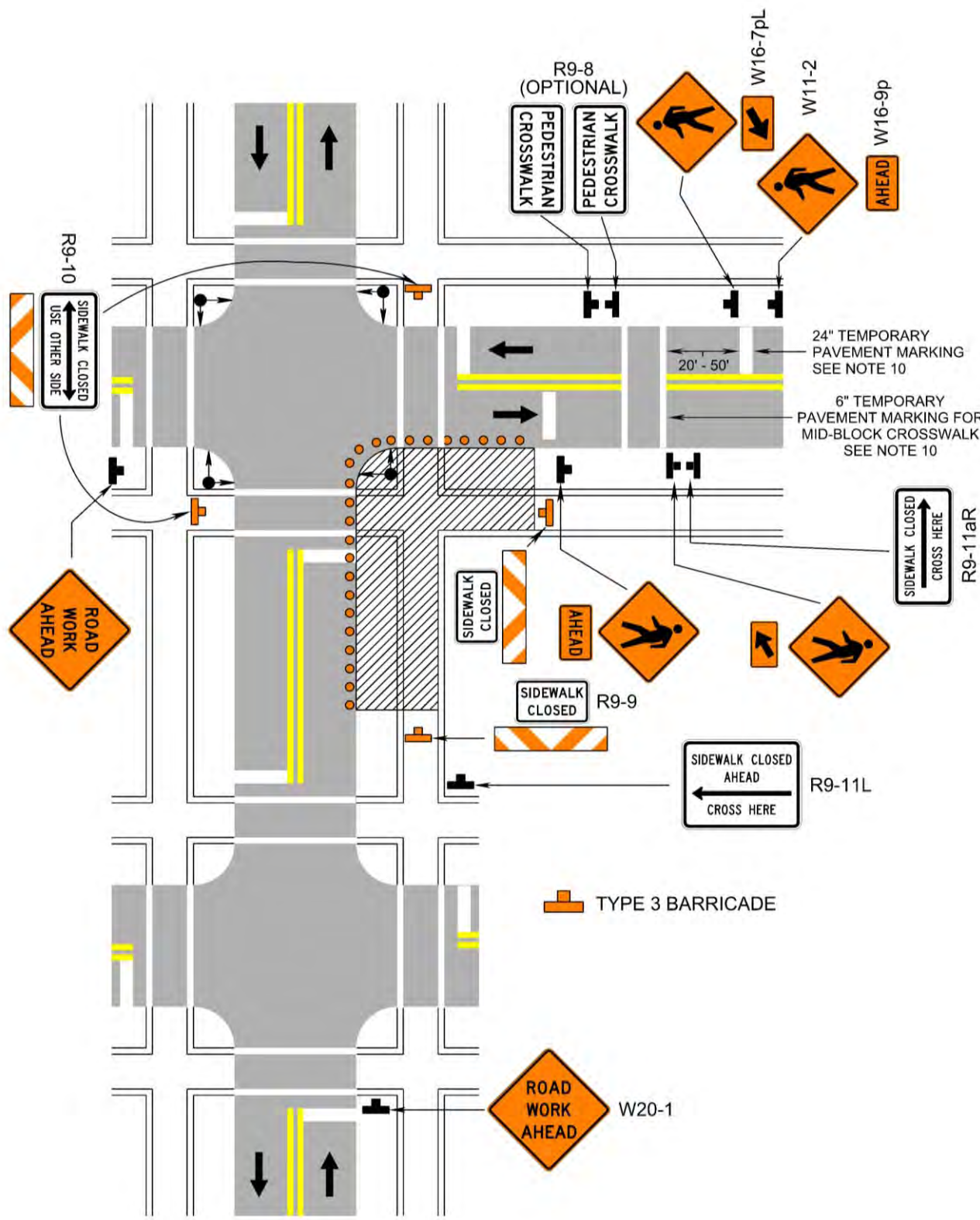
**Standard:**

- 9. All sidewalk closures shall be closed with Type 3 Barricades.**

**Support:**

10. Refer to Sections 3B-16 through 3B-18 of the 2009 MUTCD for optional stop lines, yield lines and other related TTC devices that may be used to control vehicular traffic at midblock crosswalks.

Crosswalk Closure and Pedestrian Detour Operation  
(Figure TTC-36.0)



**Typical Traffic Control**  
***Signing for Project Limits***  
**(Figure TTC-53.0)**

**NOTES**

**Support:**

1. This layout depicts signing requirements for notifying motorist when they are entering and exiting a potential construction/maintenance area with a duration equal to or greater than 60 days.

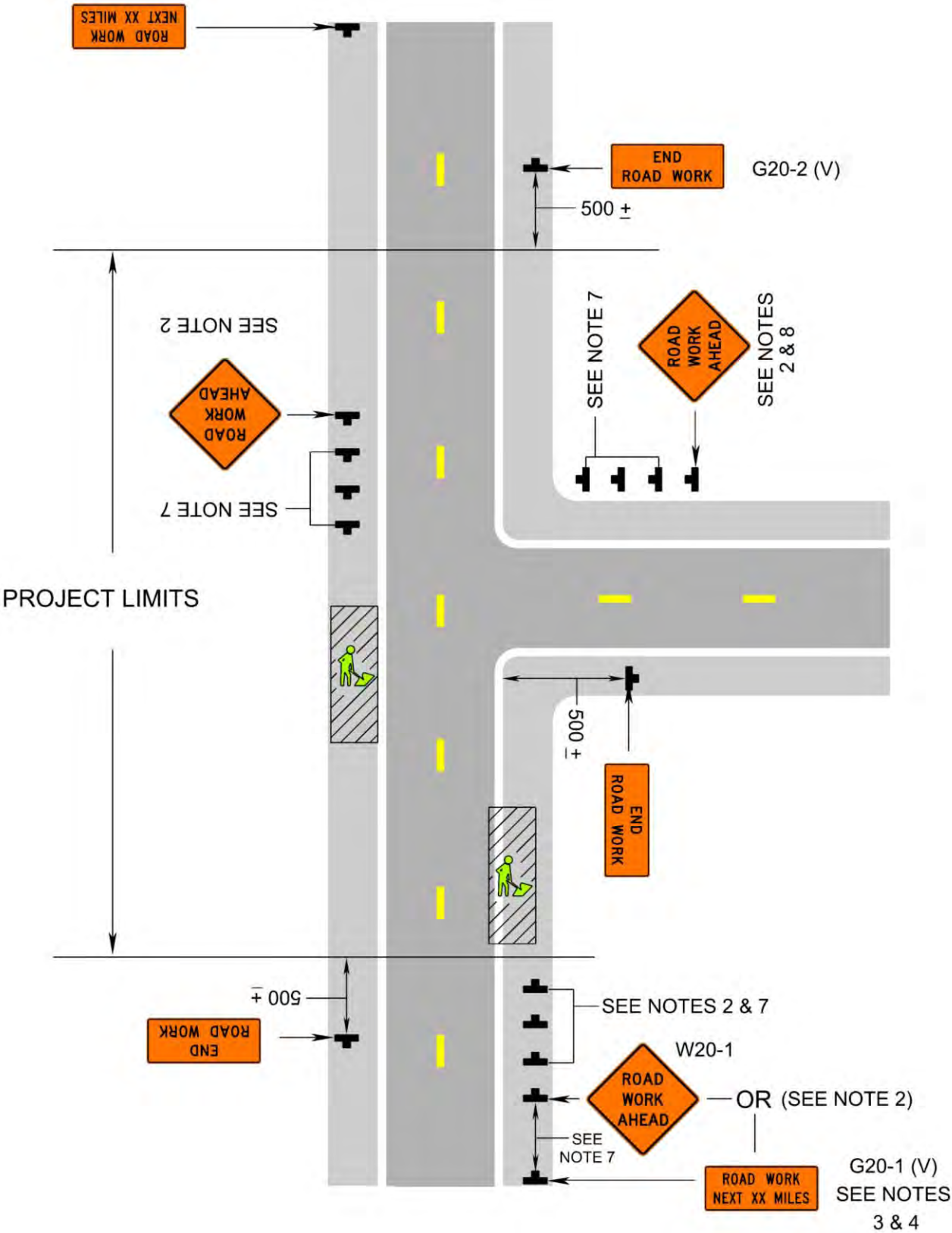
**Standard:**

2. The **ROAD WORK AHEAD (W20-1)** sign or the **ROAD WORK NEXT XX MILES (G20-1 (V))** sign shall be placed far enough in advance of the project limits so that other warning signs in a series may be adequately placed prior to the condition they are warning about.
3. The **ROAD WORK NEXT XX MILES** sign shall be used for projects with activity areas greater than 2 miles in length, or when multiple work activities (such as pavement patching, guardrail installations, shoulder restoration, etc.) occur along a highway.
4. The distance displayed on the **ROAD WORK NEXT XX MILES** sign shall be stated to the nearest whole mile from the point of installation to the **END ROAD WORK (G20-2 (V))** sign.
5. On divided highways having a median wider than 8', right and left sign assemblies shall be required.

**Guidance:**

6. *For projects with activity areas 2 miles or less in length, the ROAD WORK AHEAD sign should be the first sign motorist encounter.*
7. *Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.*
8. *All connections within the project limits should be identified with signs indicating to motorist they are entering or exiting a potential construction/maintenance area.*

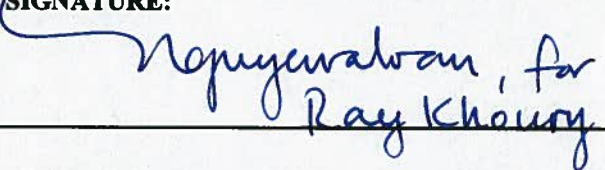
Signing for Project Limits  
(Figure TTC-53.0)





VIRGINIA DEPARTMENT OF TRANSPORTATION  
**TRAFFIC ENGINEERING DIVISION**

**MEMORANDUM**

<b>GENERAL SUBJECT:</b>  Traffic Signs	<b>NUMBER:</b> TE-340.1
	<b>SUPERSEDES:</b> TE-340
<b>SPECIFIC SUBJECT:</b>  Speed Limit and Fine Signs in Work Zones	<b>DATE:</b> June 19, 2012
	<b>SUNSET DATE:</b> Upon the release of the next revision to the Virginia Work Area Protection Manual
<b>DIRECTED TO:</b> District Administrators, Regional Operations Directors, Regional Traffic Engineers	<b>SIGNATURE:</b> 

Section §46.2-878.1 of the Code of Virginia, enacted into law on July 1, 2003, established a fine for speeding in a work zone at not more than \$500 when workers are present and the work zone is indicated by appropriately placed signs. This Code section was modified by the 2012 General Assembly by adding "*for projects covered by contracts entered into on or after July 1, 2012, with attached flashing lights*" or other traffic control devices indicating that work is in progress. The intent of this change in the Code is for flashing lights to be activated indicating to motorists that workers are present and that work is in progress. To be in compliance with this change in the Code, the following modifications will be required to be made when increased fines for speeding in a work zone have been established:

**Projects awarded on or after July 1, 2012:**

1. A "WHEN FLASHING" sign plaque (R2-VP2) shall be added to the bottom of the "NOTICE FINES UP TO \$500 FOR EXCEEDING SPEED LIMIT IN WORK ZONE" sign (R2-V1) as shown in attached TTC 52.1.
2. Two Type B flashing lights shall be added to the top posts of the R2-V1 and R2-VP2 sign assembly with a feature to turn the lights on when workers are present within the work zone, and turn them off when workers are not within the work zone. The contractor shall notify project personnel as to the person(s) assigned to perform this function, and a log shall be kept indicating when the date and times the flashing lights were activated and deactivated and by whom.

**Projects awarded prior to July 1, 2012:**

To establish consistency and develop motorist expectations that flashing lights will be used in all work zones with increased fines for speeding to indicate when workers are present, projects awarded prior to July 1, 2012 shall make the same modifications shown above in bullet points 1 and 2 to existing R2-V1 signs by no later than **October 1, 2012** as shown in TTC-52.1.

**Projects awarded on or after July 1, 2013:**

For contracted projects advertised and non-contracted work begun after July 1, 2013, where the work zone was selected for this initiative, the WORK ZONE \$500 MAX. FINE FOR EXCEEDING SPEED LIMIT WHEN FLASHING sign (R2-V1) used shall be as shown in attached TTC-52.2, which incorporates the WHEN FLASHING message into the sign and avoids the need of adding a sign plaque. This sign may be used sooner than the July 1, 2013 date if desired.

**Guidelines for Selection of Increased Fines for Speeding in a Active Work Zone:**

Selection of work zones for increased fines for speeding is at the Regional Traffic Engineer's discretion. In order for this measure to have an optimum impact on safety and be enforceable, it should be coordinated with the local law enforcement community and/or State Police.

Recommended guidelines for selecting work zones for increased fines are as follows:

- Projects on limited access highways with a work duration of 60 days or more
- Projects on non-limited access highways with a posted or statutory (if not posted) speed limit of 35 mph or greater that will have a work duration of 120 days or more
- Projects (both limited and non-limited access highways) where safety will be improved based on the engineering judgment of the Regional Traffic Engineer

CC: Mr. Greg Whirley  
Ms. Constance S. Sorrell  
Mr. Malcolm T. Kerley, P.E.  
Division Administrators  
District Construction Engineers  
Regional Operations Maintenance Managers  
Residency Maintenance Managers



## CHAPTER 397

*An Act to amend and reenact § 46.2-878.1 of the Code of Virginia, relating to highway work zones.*

[H 72]

Approved March 30, 2012

Be it enacted by the General Assembly of Virginia:

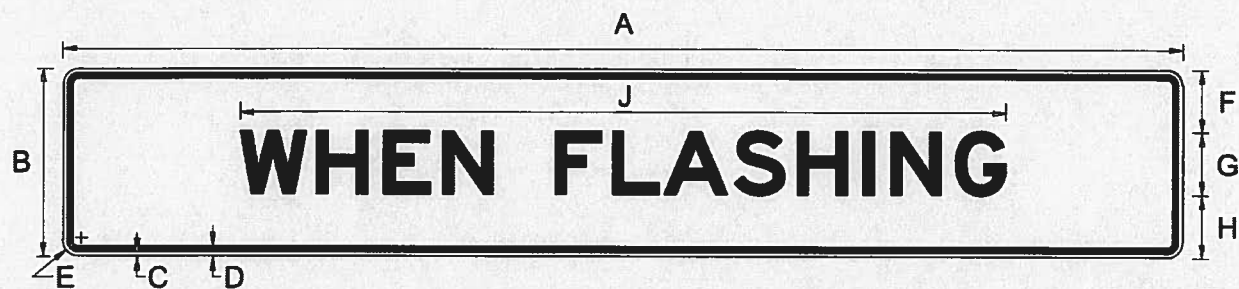
1. That § 46.2-878.1 of the Code of Virginia is amended and reenacted as follows:

§ 46.2-878.1. Maximum speed limits in highway work zones; penalty.

Operation of any motor vehicle in excess of a maximum speed limit established specifically for a highway work zone, when workers are present and when such highway work zone is indicated by appropriately placed signs displaying the maximum speed limit and the penalty for violations, shall be unlawful and constitute a traffic infraction punishable by a fine of not more than \$500.

For the purposes of this section, "highway work zone" means a construction or maintenance area that is located on or beside a highway and marked by appropriate warning signs *and, for projects covered by contracts entered into on or after July 1, 2012, with attached flashing lights or other traffic control devices indicating that work is in progress.*

Nothing in this section shall preclude the prosecution or conviction for reckless driving of any motor vehicle operator whose operation of any motor vehicle in a highway work zone, apart from speed, demonstrates a reckless disregard for life, limb, or property.



### R2-VP2 PLAQUE

WHEN FLASHING Plaque for existing R2-V1 NOTICE FINES UP TO \$500 FOR EXCEEDING SPEED LIMIT IN WORK ZONE Sign

A	B	C	D	E	F	G	H	J
66	12	0.375	0.4375	1.5	4	4E	4	49.2
108	18	.375		1.5	6	6E	6	73.9

TTC SIGN COLORS:      LEGEND      — BLACK  
                                     BACKGROUND      — WHITE      (RETROREFLECTIVE)

**Typical Traffic Control**  
***Signing for Speed Limit and Fine Signs in Work Zones***  
**(Figure TTC-52.1)**

**NOTES**

**Standard:**

1. **The Regional Traffic Engineer shall approve reducing the speed limit in a work zone after performing a Traffic Engineering study per Traffic Engineering Division Memorandum TE-350 prior to the use of this layout.**

**Option:**

2. This layout depicts signing requirements for speed limits and increased fines in work zones. Fines do not have to be increased for all work zone speed reductions, nor do speeds have to be reduced to apply increased fines for speeding (see note 9).

**Guidance:**

3. *Sign spacing distance should be 1300'-1500' for Limited Access Highway, and on all other roadways 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.*

**Standard:**

4. **On divided highways having a median wider than 8', right and left sign assemblies shall be required.**
5. **The use of the NOTICE FINES UP TO \$500 FOR EXCEEDING SPEED LIMIT IN WORK ZONE (R2-V1) sign shall be approved by the Regional Traffic Engineer prior to installation. If the R2-V1 sign is used the FINES HIGHER (R2-6P) plaque and END WORK ZONE SPEED LIMIT (R2-12) sign shall be used.**

**Option:**

6. For Secondary and Minor Primary road systems, a 66" x 42" sign may be used.

**Standard:**

7. **If the entire project is signed for a reduced speed, and an original speed limit sign is not within 1000 feet of the END ROAD WORK (G20-2 (V)) sign, signs depicting the original speed limit shall be erected 500'± past the END ROAD WORK sign. On secondary roads without posted speed limits, an END WORK ZONE SPEED LIMIT (R2-12) sign shall be used in place of erecting an R2-1 sign. If only part of the project is signed for a reduced speed, then the original speed limit shall be posted 500'± past the work area.**

**Option:**

8. Experience has shown that compliance to the reduced speed signing is greater if these signs are placed as close to the work as possible, as opposed to placement prior to the advance warning signs (ROAD WORK AHEAD, etc.).

**Standard:**

9. **The REDUCED SPEED LIMIT AHEAD (W3-5) graphic signs are only required if the speed limit is being reduced in the work zone.**

**Guidance:**

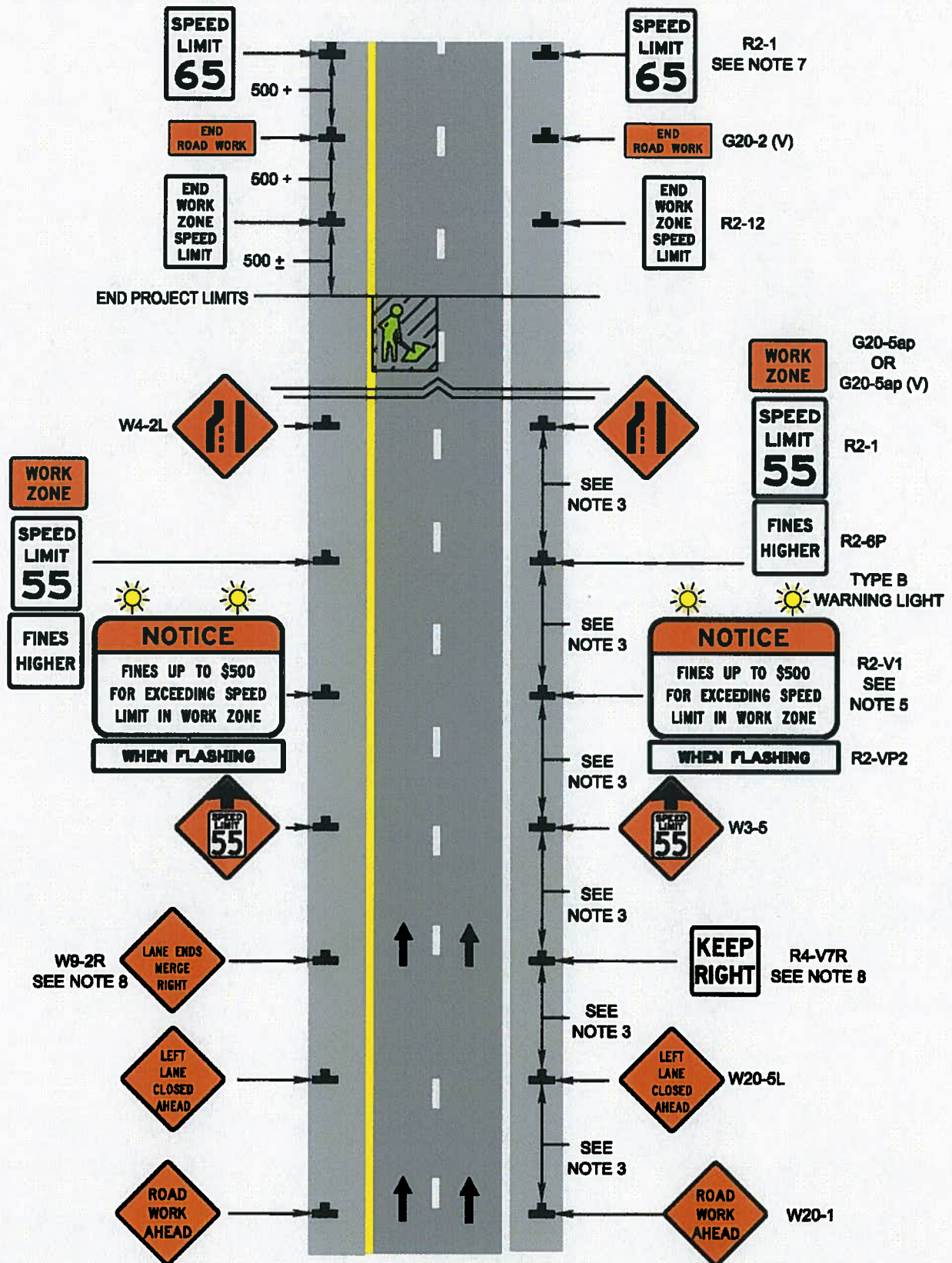
10. *The speed limit should be stepped down in advance of the location requiring the lowest speed in ten-mile per hour increments. Additional TTC warning devices should be used.*

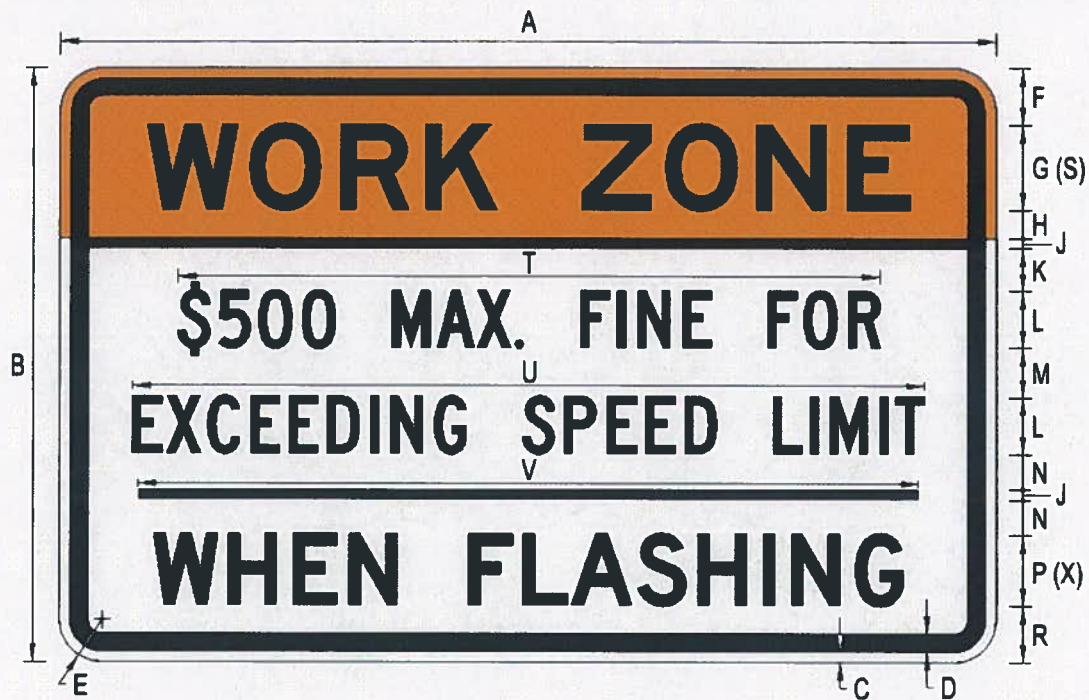
**Standard:**

11. **The WHEN FLASHING (R2-VP) panel shall be installed under the (R2-V1) sign.**
12. **Two Type B flashing lights shall be added to the top posts of the R2-V1 sign. The lights shall be activated when workers are present in the work zone and shall be deactivated when workers are not in the work zone. Documentation shall support the activation and deactivation of the lights.**



**Signing for Speed Limit and Fine Signs in Work Zone**  
(Figure TTC-52.1)





#### R2-V1

WORK ZONE \$500 MAX. FINE FOR EXCEEDING SPEED LIMIT WHEN FLASHING

A	B	C	D	E	F	G	H	J	K	L	M
66	42	0.75	1.25	3	4	6 E	2	0.75	3	4 C	3.5
108	54	0.75	1.25	3	4	6 E	2	1	4	6 D	5

N	P	R	S	T	U	V	X
2.5	5 D	4	53.9	49.5	55.8	55	52.8
3.5	7 E	5	53.9	85.3	95.8	90	86.2

( ) Denotes line length.

TTC SIGN COLORS — TOP:

LEGEND  
BACKGROUND

— BLACK  
— FLUORESCENT ORANGE (RETROREFLECTIVE)

TTC SIGN COLORS — BOTTOM:

LEGEND  
BACKGROUND

— BLACK  
— WHITE (RETROREFLECTIVE)



**Typical Traffic Control**  
***Signing for Speed Limit and Fine Signs in Work Zones***  
**(Figure TTC-52.2)**

**NOTES**

**Standard:**

1. **The Regional Traffic Engineer shall approve reducing the speed limit in a work zone after performing a Traffic Engineering study per Traffic Engineering Division Memorandum TE-350 prior to the use of this layout.**

**Option:**

2. This layout depicts signing requirements for speed limits and increased fines in work zones. Fines do not have to be increased for all work zone speed reductions, nor do speeds have to be reduced to apply increased fines for speeding (see note 9).

**Guidance:**

3. *Sign spacing distance should be 1300'-1500' for Limited Access Highway, and on all other roadways 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.*

**Standard:**

4. **On divided highways having a median wider than 8', right and left sign assemblies shall be required.**
5. **The use of the WORK ZONE \$500 MAX. FINE FOR EXCEEDING SPEED LIMIT WHEN FLASHING (R2-V1) sign shall be approved by the Regional Traffic Engineer prior to installation. If the R2-V1 sign is used the FINES HIGHER (R2-6P) plaque and END WORK ZONE SPEED LIMIT (R2-12) sign shall be used.**

**Option:**

6. For Secondary and Minor Primary road systems, a 66" x 42" sign may be used.

**Standard:**

7. **If the entire project is signed for a reduced speed, and an original speed limit sign is not within 1000 feet of the END ROAD WORK (G20-2 (V)) sign, signs depicting the original speed limit shall be erected 500'± past the END ROAD WORK sign. On secondary roads without posted speed limits, an END WORK ZONE SPEED LIMIT (R2-12) sign shall be used in place of erecting an R2-1 sign. If only part of the project is signed for a reduced speed, then the original speed limit shall be posted 500'± past the work area.**

**Option:**

8. Experience has shown that compliance to the reduced speed signing is greater if these signs are placed as close to the work as possible, as opposed to placement prior to the advance warning signs (ROAD WORK AHEAD, etc.).

**Standard:**

9. **The REDUCED SPEED LIMIT AHEAD (W3-5) graphic signs are only required if the speed limit is being reduced in the work zone.**

**Guidance:**

10. *The speed limit should be stepped down in advance of the location requiring the lowest speed in ten-mile per hour increments. Additional TTC warning devices should be used.*

**Standard:**

11. **Two Type B flashing lights shall be added to the top posts of the R2-V1 sign. The lights shall be activated when workers are present in the work zone and shall be deactivated when workers are not in the work zone. Documentation shall support the activation and deactivation of the lights.**

